

HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1919

WITH OBSERVATIONS UP TO JUNE 30TH, 1920.

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LIVERPOOL

C. TINLING & CO., LTD., PRINTING CONTRACTORS, 53, VICTORIA STREET.

1920.





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Local Government Board Tables of Population, Births, Deaths, Infantile Mortality and Infectious Sickness. Tables I, II, III and IV.

Table of Deaths of Soldiers and Sailors of H.M. Forces

Table of Total Deaths registered in the City.

PREFACE.

In the following Report the health of the City during the year 1919 is dealt with, and opportunity has been taken, as in the Report for the preceding year, to allude to one or two matters of interest during the early part of the current year calling for comment.

The birth-rate for the year 1919 shews not only that the abrupt decline in the birth-rate during the years of war has been checked, but the tendency towards a return to the normal rate is marked.

The death-rate of 17 is the lowest on record, with one single exception.

Considerable interest attaches to the history of zymotic disease in a large seaport, and a number of diagrams have been inserted which shew, on a uniform scale, annual death-rates for a very considerable number of years from the various zymotic diseases. The chart relating to Scarlet Fever is particularly striking.

The important subjects in the index have been dealt with in the text as fully as circumstances have permitted.

A great stimulus to general sanitation is confidently hoped for from the establishment of a Ministry of Health, and in view of the steady progress already made, there is no reason to doubt that these expectations will be fulfilled.

E. W. HOPE,

Medical Officer of Health

Public Health Department,
Municipal Buildings,
Liverpool, 1st August, 1920.



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STATISTICS

RELATING TO

BIRTHS, DEATHS, AND CAUSES OF DEATH, &c.,
ZYMOTIC DISEASES AND THEIR INCIDENCE.

SUMMARY

OF

VITAL STATISTICS FOR 1919.

Area of City	21,219	Acres.
		(33 square miles)
Population (estimated to the middle of the year)	781,948	
Births	18,694,	Birth-rate 23·9.
Deaths	13,283,	Death-rate 17·0.
Infantile Mortality	2,055	Deaths under one year.
Infant Mortality Rate	110	per 1,000 Births.
Zymotic Death-rate (7 principal Zymotic Diseases)	0·96	per 1,000.
All forms of Tuberculosis (including Phthisis)... ..	1·7	per 1,000.
Phthisis Death-rate	1·4	per 1,000.

BIRTHS.

The number of births recorded during the year 1919 within the City was 18,694, equal to a rate of 23.9 per 1,000 of the population, the average of the previous five years (1914-1918) being 25.9. The rates are calculated upon the corrected population as ascertained by the Census Returns of 1901 and 1911. Of the total births 9,587 were males and 9,107 were females. The number of illegitimate births was 928, or 5.0 per cent. of the total births, 493 being males and 435 females.

The Registrar General intimated that 181 of the births registered in the City should be deducted as non-resident, and this has accordingly been done, the above figures being the net numbers after the deduction has been made.

The birth-rate in the City of Liverpool is considerably above the average of the great towns, which is 19.0 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate is 18.5 per 1,000 for the year 1919.

The diminution in the birth rate, to which attention was drawn in the report for last year, continued practically until the end of the third quarter of the year under review, at which period a distinct rise was noticeable, the weekly averages for the first three quarters of the year being respectively, 313, 323 and 346, whilst that of the last thirteen weeks was 447. The following statement will show the increase in the birth rate for the year and also the number of births registered in the City for the last two years.

		Actual Births.		Rate.		Actual Increase
1918	...	17,133	...	21.9	...	—
1919	...	18,694	...	23.9	...	1,561

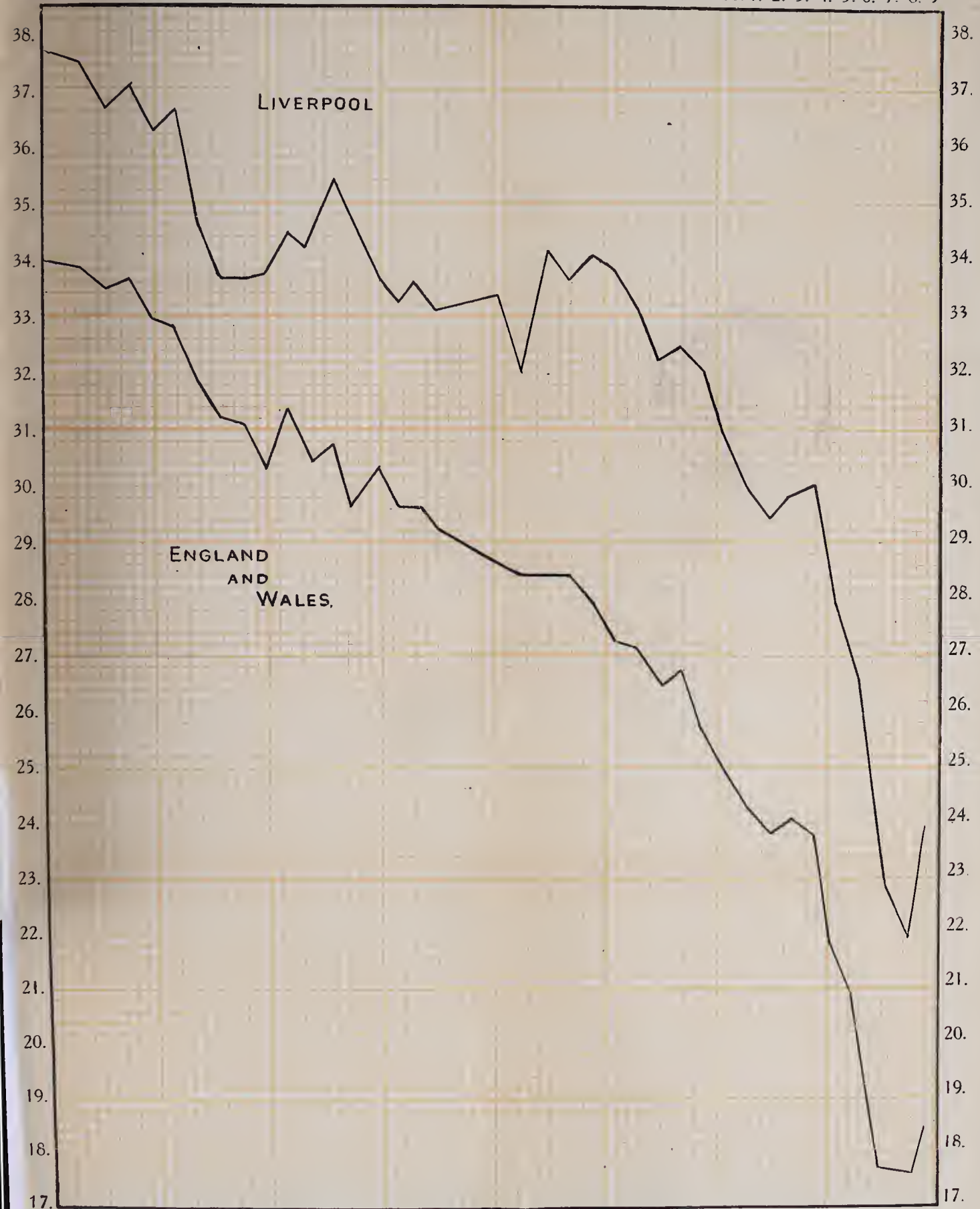
The following table shows the population, number of births and deaths, and the rates per 1,000 in each district of the City for the year 1919:—

Districts.	Estimated Population	BIRTHS.		DEATHS.	
		Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
SCOTLAND	44,542	1,546	34·7	951	21·4
EXCHANGE	35,573	922	25·9	858	24·1
ABERCROMBY	42,219	1,011	23·9	914	21·6
EVERTON	120,150	3,240	27·0	2,161	18·0
KIRKDALE	66,933	1,794	26·8	1,190	17·8
WEST DERBY (WEST) ...	85,077	2,076	24·4	1,482	17·4
TOXTETH	100,259	2,781	27·7	1,908	19·0
WALTON	86,824	1,632	18·8	1,099	12·7
WEST DERBY (EAST) ...	73,101	1,479	20·2	1,000	13·7
WAVERTREE	48,445	847	17·5	581	12·0
TOXTETH (EAST)... ..	36,611	561	15·3	488	13·3
GARSTON	28,764	608	21·1	352	12·2
FAZAKERLEY	6,482	81	12·5	63	9·7
WOOLTON	6,968	116	16·6	80	11·5
NO ADDRESS ... ..	...	...	...	156	...
	781,948	18,694	23·9	13,283	17·0

BIRTH RATE, 1881-1919.

M37776 Est.

1881. 2. 3. 4. 5. 6. 7. 8. 9. 10. 1. 2. 3. 4. 5. 6. 7. 8. 9. 1900. 1. 2. 3. 4. 5. 6. 7. 8. 9.



BIRTH RATE

1911-1912

1911 1910 1909 1908 1907 1906 1905 1904 1903 1902 1901



The following table shows the population, number of births, and the corrected birth-rate per 1,000 during the last twenty years:—

| Year. | Population. | No. of Births. | Rate per 1,000. |
|-------------------|-------------|----------------|-----------------|
| 1900 | 680,628 | 22,762 | 33·4 |
| 1901 | 686,332 | 21,980 | 32·0 |
| ¹ 1902 | 707,027 | 24,283 | 34·2 |
| 1903 | 710,874 | 23,910 | 33·6 |
| 1904 | 714,743 | 24,278 | 33·9 |
| ² 1905 | 721,864 | 24,350 | 33·7 |
| 1906 | 726,100 | 24,123 | 33·2 |
| 1907 | 730,361 | 23,654 | 32·3 |
| 1908 | 734,648 | 23,891 | 32·5 |
| 1909 | 738,960 | 23,591 | 31·9 |
| 1910 | 743,295 | 23,054 | 31·0 |
| 1911 | 747,627 | 22,493 | 30·0 |
| 1912 | 752,021 | 22,233 | 29·5 |
| ³ 1913 | 756,553 | 22,555 | 29·8 |
| 1914 | 767,992 | 23,065 | 30·0 |
| 1915 | 772,595 | 21,586 | 27·9 |
| 1916 | 777,247 | 20,679 | 26·6 |
| 1917 | 781,948 | 17,906 | 22·9 |
| 1918 | 781,948 | 17,133 | 21·9 |
| 1919 | 781,948 | 18,694 | 23·9 |

The foregoing table shows the decrease in the birth-rate during the last 20 years.

The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1891, 1901, and 1911.

¹ Garston included with a population of 17,289.

² Fazakerley included with a population of 2,892.

³ Woolton, Allerton and Childwall included with a population of 6,882.

DEATHS.

The following table shows the population, number of deaths, and the corrected death-rate per 1,000 during the last twenty years:—

| Year. | Population. | No. of Deaths. | Rate per 1,000. |
|-------------------|-------------|----------------|-----------------|
| 1900 | 680,628 | 15,785 | 23·1 |
| 1901 | 686,332 | 14,879 | 21·6 |
| ¹ 1902 | 707,027 | 15,396 | 21·7 |
| 1903 | 710,874 | 14,240 | 20·0 |
| 1904 | 714,743 | 15,851 | 22·1 |
| ² 1905 | 721,864 | 14,103 | 19·5 |
| 1906 | 726,100 | 15,001 | 20·6 |
| 1907 | 730,361 | 13,676 | 18·7 |
| 1908 | 734,648 | 13,930 | 18·9 |
| 1909 | 738,960 | 13,945 | 18·8 |
| 1910 | 743,295 | 13,343 | 17·9 |
| 1911 | 747,627 | 14,607 | 19·5 |
| 1912 | 752,021 | 13,364 | 17·7 |
| ³ 1913 | 756,553 | 13,658 | 18·0 |
| 1914 | 767,992 | 15,046 | 19·5 |
| 1915 | 772,595 | 14,478 | 18·7 |
| 1916 | 777,247 | 13,943 | 17·9 |
| 1917 | 781,948 | 13,093 | 16·7 |
| 1918 | 781,948 | 15,267 | 19·5 |
| 1919 | 781,948 | 13,283 | 17·0 |

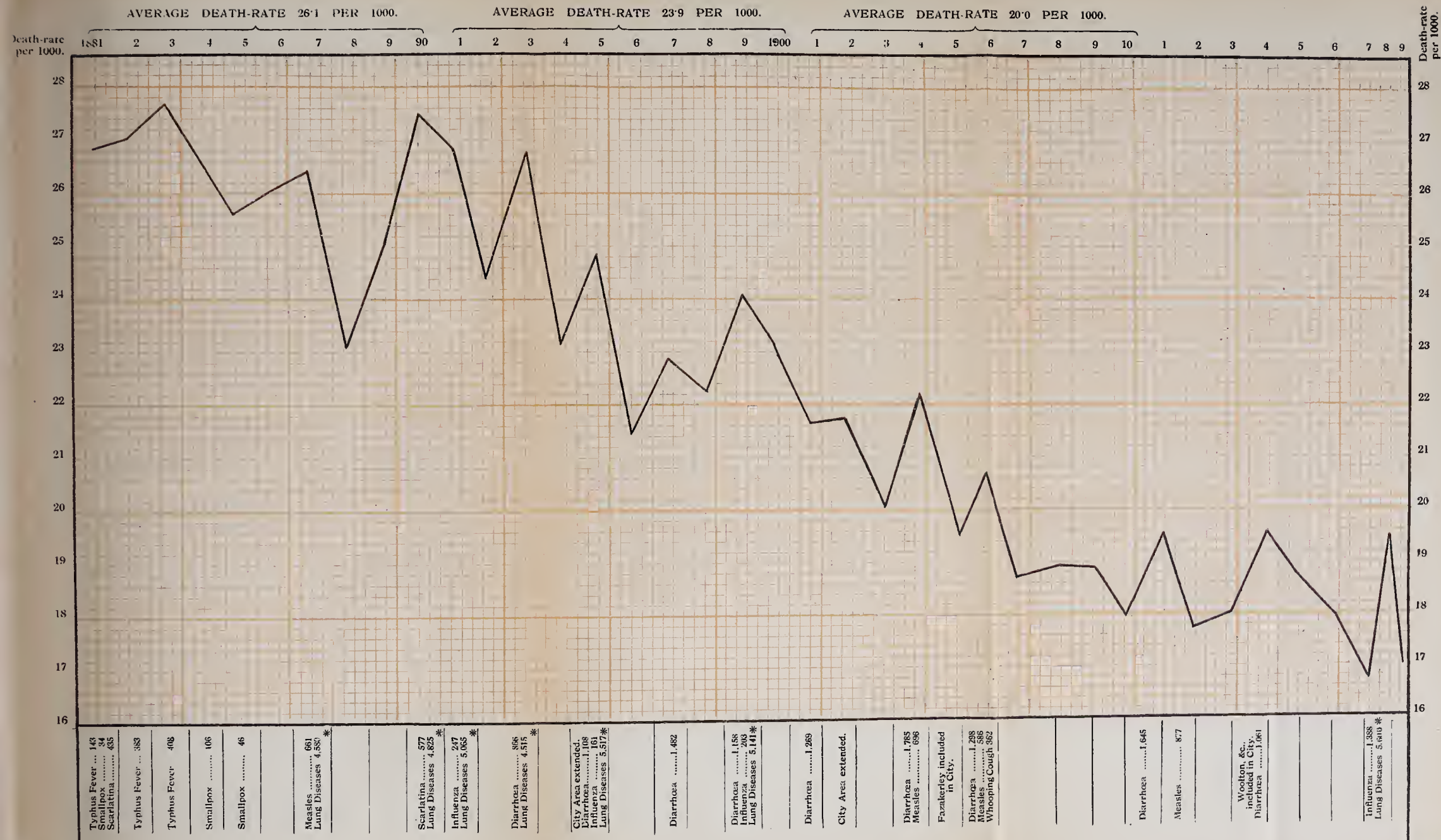
¹ Garston included.

² Fazakerley included.

³ Woolton, Allerton and Childwall included.

NOTE.—The rates have been calculated upon the corrected population as ascertained by the Census Returns of 1891, 1901, and 1911.

CITY OF LIVERPOOL. DEATH RATE, 1881-1919.

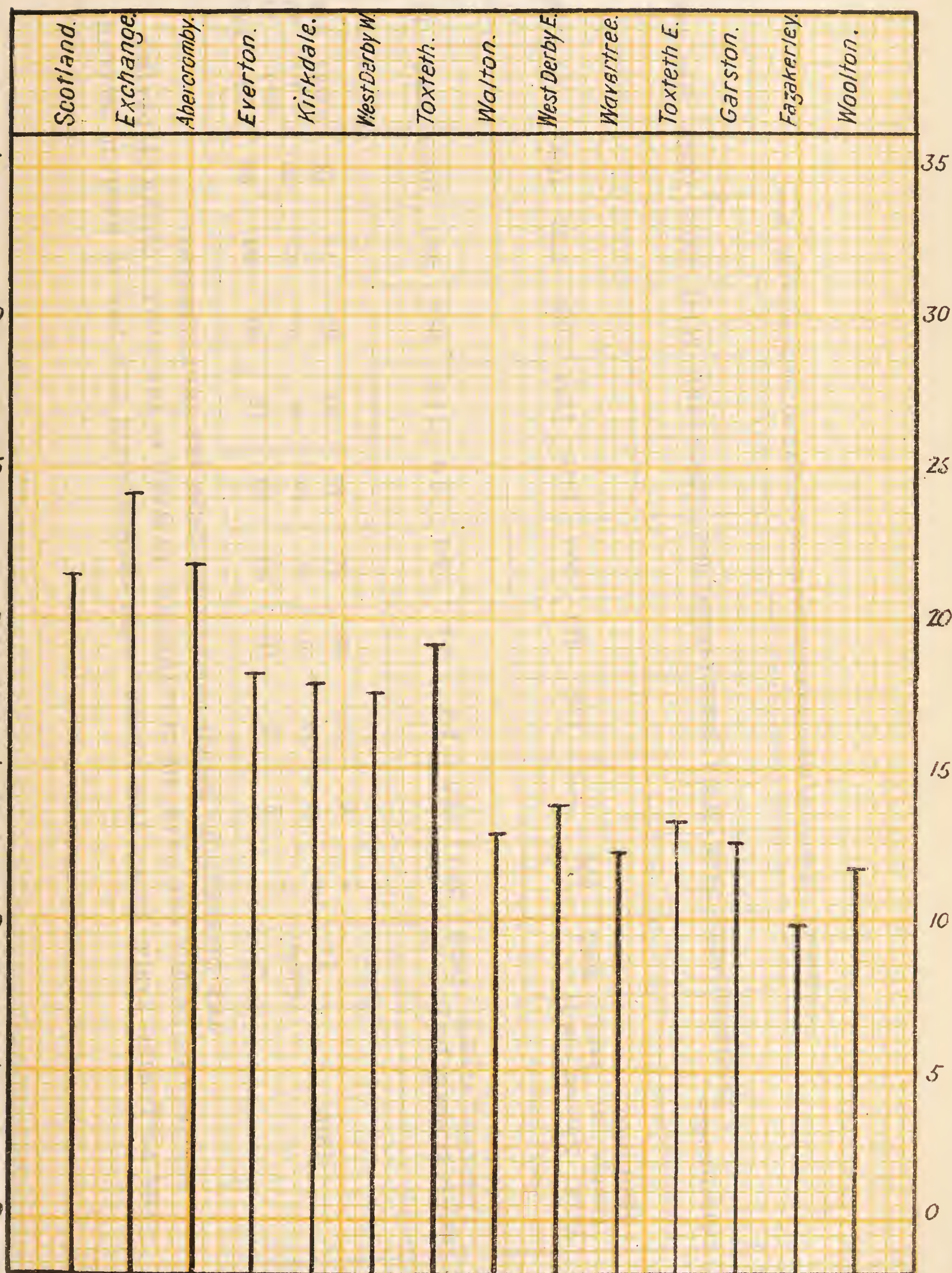


* Including Phthisis.

CITY OF LIVERPOOL.

Comparative view of the Death Rate per 1,000 in the different districts of the City during the year 1919

Deaths in Public Institutions are transferred to the Districts from whence the Patients came



CITY OF LIVERPOOL

Comparative view of the Death Rate per 1,000 in the different districts of the City during the year 1914

Deaths in Public Institutions are indicated by the Dashes from whence the Patients came



THE FOLLOWING TABLE SHOWS THE ANNUAL RATE OF MORTALITY PER 1,000 AT EACH OF TWELVE AGE-PERIODS DURING THE YEAR 1919 IN LIVERPOOL, AS WELL AS THE TOTAL NUMBER OF DEATHS.

THE DIFFERENCES WHICH THE FIGURES SHOW ARE VERY STRIKING:—

| 1919. | *
Under
1
year. | 1
to
2 | 2
to
5 | 5
to
10 | 10
to
20 | 20
to
30 | 30
to
40 | 40
to
50 | 50
to
60 | 60
to
70 | 70
to
80 | 80
and
up-
wards. | Total
at
all
Ages. |
|---|--------------------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|-----------------------------|
| Rate of Mortality per
1,000 living at ages
indicated. | 110.0 | 33.1 | 12.5 | 5.3 | 4.4 | 6.8 | 8.2 | 14.7 | 28.5 | 50.1 | 109.8 | 223.2 | 17.0 |
| Total Number of
Deaths at each
Age-Period. | 2055 | 596 | 717 | 460 | 644 | 884 | 1018 | 1288 | 1630 | 1755 | 1685 | 551 | 13283 |
| Approximate
Population | 19738 | 18008 | 57315 | 87265 | 147528 | 130667 | 123870 | 87562 | 57141 | 35039 | 15346 | 2469 | 781948 |

* Column I. indicates the rate of mortality under one year per 1,000 births during the year.

The total death-rate of the City during the year was 17·0 per 1,000 of the estimated population, the average rate of the preceding five years (1914-1918) being 18·5. Full statistical details in regard to the various causes of death are set out in the tables to be found in the Appendix.

The deaths in public institutions numbered 5,418, and included 802 persons who were either non-residents in the City area or non-civilians. The number of deaths in the various institutions are shown in the following table:—

| | | | | | Total
Deaths. | Non-resident
or non-civilian. |
|------------------------------------|-----|-----|-----|-----|------------------|----------------------------------|
| Parish Institution (Brownlow Hill) | ... | ... | ... | ... | 1,030 | 10 |
| Royal Infirmary | ... | ... | ... | ... | 316 | 119 |
| Children's Infirmary | ... | ... | ... | ... | 265 | 40 |
| Maternity Hospital | ... | ... | ... | ... | 55 | 4 |
| Consumption Hospital | ... | ... | ... | ... | 8 | 2 |
| Hahnemann Hospital | ... | ... | ... | ... | 6 | — |
| Samaritan Hospital | ... | ... | ... | ... | 4 | 1 |
| Eye and Ear Infirmary | ... | ... | ... | ... | 11 | 7 |
| David Lewis Northern Hospital | ... | ... | ... | ... | 178 | 54 |
| Stanley Hospital | ... | ... | ... | ... | 97 | 26 |
| Royal Southern Hospital | ... | ... | ... | ... | 183 | 33 |
| Mill Road Infirmary | ... | ... | ... | ... | 659 | 70 |
| Hospital for Women | ... | ... | ... | ... | 30 | 15 |
| City Hospital North | ... | ... | ... | ... | 53 | 2 |
| Do. South | ... | ... | ... | ... | 22 | — |
| Do. Parkhill | ... | ... | ... | ... | 87 | 3 |
| Do. East, Mill Lane | ... | ... | ... | ... | 149 | — |
| Do. Fazakerley | ... | ... | ... | ... | 60 | 14 |
| Do. Sparrow Hall | ... | ... | ... | ... | 19 | 10 |
| Do. Garston | ... | ... | ... | ... | 15 | 1 |
| Sanatorium Fazakerley | ... | ... | ... | ... | 40 | 1 |
| Carried forward | | | | | 3,287 | 412 |

| | | | | | |
|--------------------------------------|-----|-----|-----|-------|-----|
| Brought forward | ... | ... | ... | 3,287 | 412 |
| Walton Institution (Rice Lane) | ... | ... | ... | 1,159 | 197 |
| Belmont Road Institution | ... | ... | ... | 73 | 47 |
| Cottage Homes, Wavertree | ... | ... | ... | 40 | 1 |
| Highfield Infirmary | ... | ... | ... | 2 | 2 |
| St. Joseph's Home | ... | ... | ... | 16 | 6 |
| Toxteth Institution (Smithdown Road) | ... | ... | ... | 526 | 7 |
| Home for Incurables | ... | ... | ... | 8 | 2 |
| House of Providence | ... | ... | ... | 2 | 2 |
| Tuebrook Villa Asylum | ... | ... | ... | 11 | 7 |
| Turner Memorial Home | ... | ... | ... | 14 | 8 |
| St. Augustine's Home | ... | ... | ... | 22 | 8 |
| Kirkdale Home | ... | ... | ... | 16 | 16 |
| Alder Hey Hospital | ... | ... | ... | 153 | 19 |
| H.M. Prison, Walton | ... | ... | ... | 6 | 2 |
| Other Institutions | ... | ... | ... | 83 | 66 |
| | | | | — | — |
| | | | | 5,418 | 802 |
| | | | | — | — |

INFECTIOUS SICKNESS.

The close association of Liverpool with all parts of the world, by reason of the large volume of shipping continually arriving in the port, renders the City peculiarly liable to the importation of various forms of infectious disease. The measures which have been adopted have been successful in preventing any outbreaks of a serious nature obtaining a footing in the City.

The following table shows the number of cases of Infectious Disease notified during 1919, the number of deaths registered from these diseases, the death rates per 100,000 of the population, and the percentage proportion of deaths to cases.

| | Smallpox. | Enteric. | Scarlet Fever. | Measles. | Diphtheria. | Puerperal Fever. | Erysipelas. | Cerebro-spinal Meningitis. | Polio-Myelitis. | Ophthalmia Neonatorum. | Anthrax. | Whooping |
|-------------------------------|-----------|----------|----------------|----------|-------------|------------------|-------------|----------------------------|-----------------|------------------------|----------|----------|
| Notified cases..... | 13 | 39 | 2,797 | 3,983 | 1,959 | 55 | 564 | 26 | 2 | 672 | 15 | 78 |
| Deaths | 1 | 7 | 74 | 103 | 212 | 20 | 23 | 22 | — | — | 3 | 5 |
| Death rate per 100,000 | 0·1 | 0·88 | 9·5 | 13·2 | 27·1 | 107* | 2·9 | 2·8 | — | — | 0·4 | 6 |
| Percentage of Deaths to cases | 7·7 | 17·9 | 2·6 | 2·5 | 10·8 | 40·0 | 4·1 | 84·5 | — | — | 20·0 | — |

* Death rate per 100,000 Births.

It is of interest to compare these figures with the maximum numbers of deaths and death-rates recorded in previous years from some of the epidemic diseases.

| Disease. | Year in which greatest Number of Deaths occurred. | Number of Deaths. | Death rate per 100,000 population. | 1919. | |
|----------------------------|---|-------------------|------------------------------------|---------|-------------|
| | | | | Deaths. | Death rate. |
| Smallpox | 1871 | 1,919 | 387 | 1 | 0·1 |
| Typhus | 1866 | 1,474 | 314 | Nil | Nil |
| Cholera | 1866 | 1,782 | 381 | Nil | Nil |
| Enteric Fever | (and 1,145 deaths from diarrhoea).
1894 | 248 | 46 | 7 | 0·9 |
| Scarlet Fever | 1874 | 1,911 | 375 | 74 | 9·4 |
| Measles | 1854 | 725 | 176 | 103 | 13·2 |
| Whooping Cough | 1866 | 991 | 212 | 53 | 6·9 |
| Diphtheria and Croup | 1885 | 346 | 59 | 212 | 27·1 |
| Influenza | 1918 | 1,388 | 177 | 1,163 | 149·0 |

The ten years from 1865 to 1874 were characterised by very high death-rates from infectious disease. The highest mortality figures recorded for smallpox, typhus, cholera, scarlet fever and whooping cough fell within this period. In 1866 the general death-rate rose to 41·7, a figure greatly in excess of any subsequent rate; typhus and cholera were the diseases mainly responsible for the excessive mortality.

Attention is directed to the diagrams in this section, which show on a uniform scale the annual death-rate for the past 70 years from scarlet fever, measles and whooping cough in this City. Scarlet fever and whooping cough show a most remarkable and satisfactory decline. Measles, formerly less formidable than scarlet fever or whooping cough, has been outstripped in its decline by them, and now occupies a more prominent position in the mortality returns than do either of these diseases.

Of the epidemic diseases prevalent in the past 30 years, influenza is the one that has produced the severest outbreaks. The heaviest incidence was felt in 1918, and its continued prevalence in the spring of 1919 was reflected by a rise in the general death-rate.

PLAGUE.—A case of plague occurred in the City on the 11th of July, the patient being a master stevedore and bargeman, who was employed in visiting vessels at the docks. His business place was situate in a warehouse in which several dead rodents were found, one of which (a mouse) was reported to be infected with plague.

Several importations of plague-infected rats on vessels were recorded in the Port during the year and this infection was coincident with one of these.

A full report of these importations will be found in the Annual Report for 1919 to the Port Sanitary Authority.

SMALLPOX.—Following on the occurrence of several cases of smallpox towards the end of 1918 in the neighbourhood of Liverpool, and traced in its origin to shipboard infection, there were several introductions of the disease into the Port and City of Liverpool during 1919.

Smallpox was especially prevalent in epidemic form in various parts of the World, but that which concerned us most was its occurrence in Portugal, the passage from Lisbon or Oporto to Liverpool being only a few days. The liability of persons landing in this Port in the incubation stage and spreading smallpox before detection was consequently very great, and occurred in several instances. Thirteen cases of smallpox occurred in the City of Liverpool during the year—the majority of these were contacts with actual shipborne cases and had been under observation.

The largest number of consecutive cases occurred in a lodging-house in Everton Brow, and after the fifth case had been removed to hospital there was no further extension of the disease.

The close supervision exercised by the Health Committee's staff in following up, vaccinating or offering vaccination to the contacts at the earliest possible moment succeeded in confining the disease to narrow limitations. There were 244 immediate contacts vaccinated by the Assistant Medical Officers during the year.

Towards the end of August the disease had been brought under control and no further cases occurred as far as the City of Liverpool was concerned.

The continued prevalence of smallpox in the Mediterranean and neighbouring regions makes it still very likely that cases will continue to arrive on vessels entering the Port from those areas.

TYPHUS FEVER.—There were no cases notified amongst the civilian population during the year.

ENTERIC FEVER.—The great decline in the prevalence of this disease which has occurred in the past 20 years continued in 1919. Since 1894 the death-rate has fallen from 46 to 0.88 per 100,000, or less than one-fiftieth of the earlier rate.

Sixty-four cases of enteric fever (including two cases of paratyphoid B) were reported during the year 1919 in the City and Port of Liverpool, this being the lowest figure as yet reported. Of these cases 27 were imported from ships and a further 6 cases were infected whilst resident in other parts of the British Isles, leaving only 34 of indigenous origin. Two persons were infected by the consumption of mussels.

The results of inquiry into the probable causation of the reported cases is shown in the accompanying table, the figures for the years 1912-1914 being shown for the purposes of comparison.

CITY AND PORT OF LIVERPOOL. ENTERIC FEVER, 1912-1919.

| | CASES. | | | | PERCENTAGE. | | | |
|--------------------------------------|--------|-------|-------|-------|-------------|-------|-------|-------|
| | 1912. | 1913. | 1914. | 1919. | 1912. | 1913. | 1914. | 1919. |
| Imported by sea | 36 | 38 | 62 | 27 | 29.0 | 24.8 | 35.0 | 42.2 |
| Imported by land | 11 | 13 | 11 | 6 | 8.8 | 8.5 | 6.2 | 9.4 |
| Shell-fish | 9 | 15 | 9 | 2 | 7.2 | 9.8 | 5.0 | 3.1 |
| Direct infection | 9 | 24 | 9 | 5 | 7.2 | 15.6 | 5.0 | 7.8 |
| Direct from missed cases | — | 7 | 3 | 1 | — | 4.5 | 1.6 | 1.6 |
| Chronic carrier..... | 1 | — | — | — | 0.8 | — | — | — |
| Probably not Enteric | 6 | 5 | 9 | 2 | 4.8 | 3.2 | 5.0 | 3.1 |
| Total ascertained causes | 72 | 102 | 103 | 43 | 57.8 | 66.4 | 57.8 | 67.2 |
| Central Area | 20 | 16 | 50 | 12 | 16.0 | 10.4 | 28.3 | 18.8 |
| Outer Area | 32 | 35 | 24 | 9 | 24.3 | 22.9 | 13.5 | 14.0 |
| Total <i>not</i> accounted for | 52 | 51 | 74 | 21 | 40.3 | 33.3 | 41.8 | 32.8 |
| Total for City and Port | 124 | 153 | 177 | 64 | | | | |

SCARLET FEVER.—There were 2,797 cases of Scarlet Fever notified during the year, this number being slightly below the average for the past ten years, which was 3,032. One-half of the cases occurred during the last four months of the year.

The number of deaths was 74, or a mortality rate of 9.4 per 100,000 of the population, and a fatality rate of 2.6 per cent of the notified cases. The accompanying chart shows the death-rate from scarlet fever since 1849. During the first 30 years of this period, outbreaks of scarlet fever accompanied by a very severe mortality occurred at intervals of three or four years, culminating in 1874, when 1,911 deaths were recorded from scarlet fever, or 375 deaths per 100,000 population.

Since that date the disease has declined to its present low figure. In 1889 the disease became notifiable, and modern methods of isolation of the patient, etc., were applied. The second diagram shows the case rate or proportion of cases of scarlet fever per 1,000 population, which has declined during the past 30 years from 6.8 to 3.1. More notable still is the decline in the fatality rate or proportion of deaths to notified cases, which has fallen from over 16 per cent. to its present figure of 2.6 per cent.

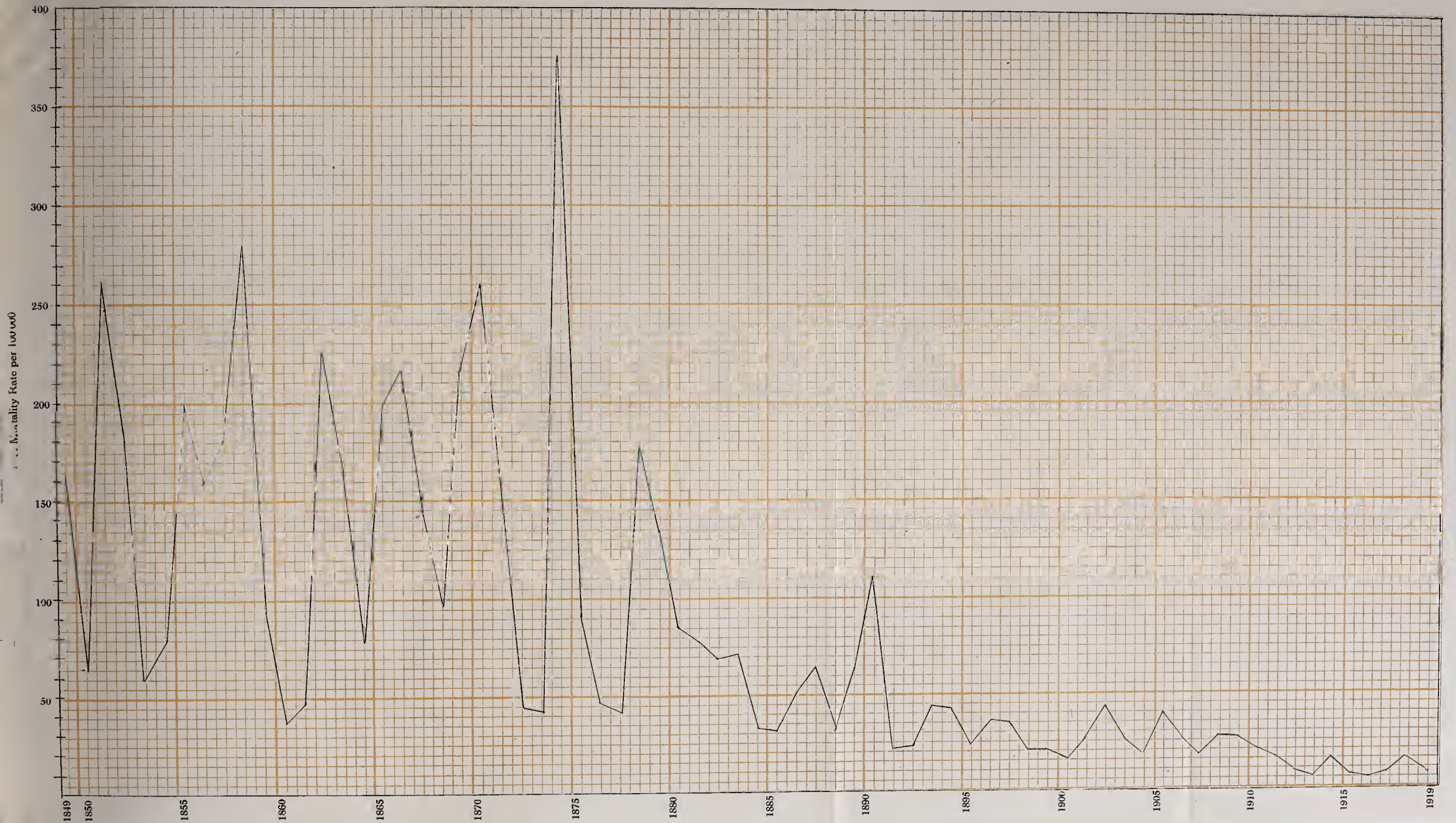
Scarlet fever is, therefore, not only less prevalent than in previous years, but is also much less fatal.

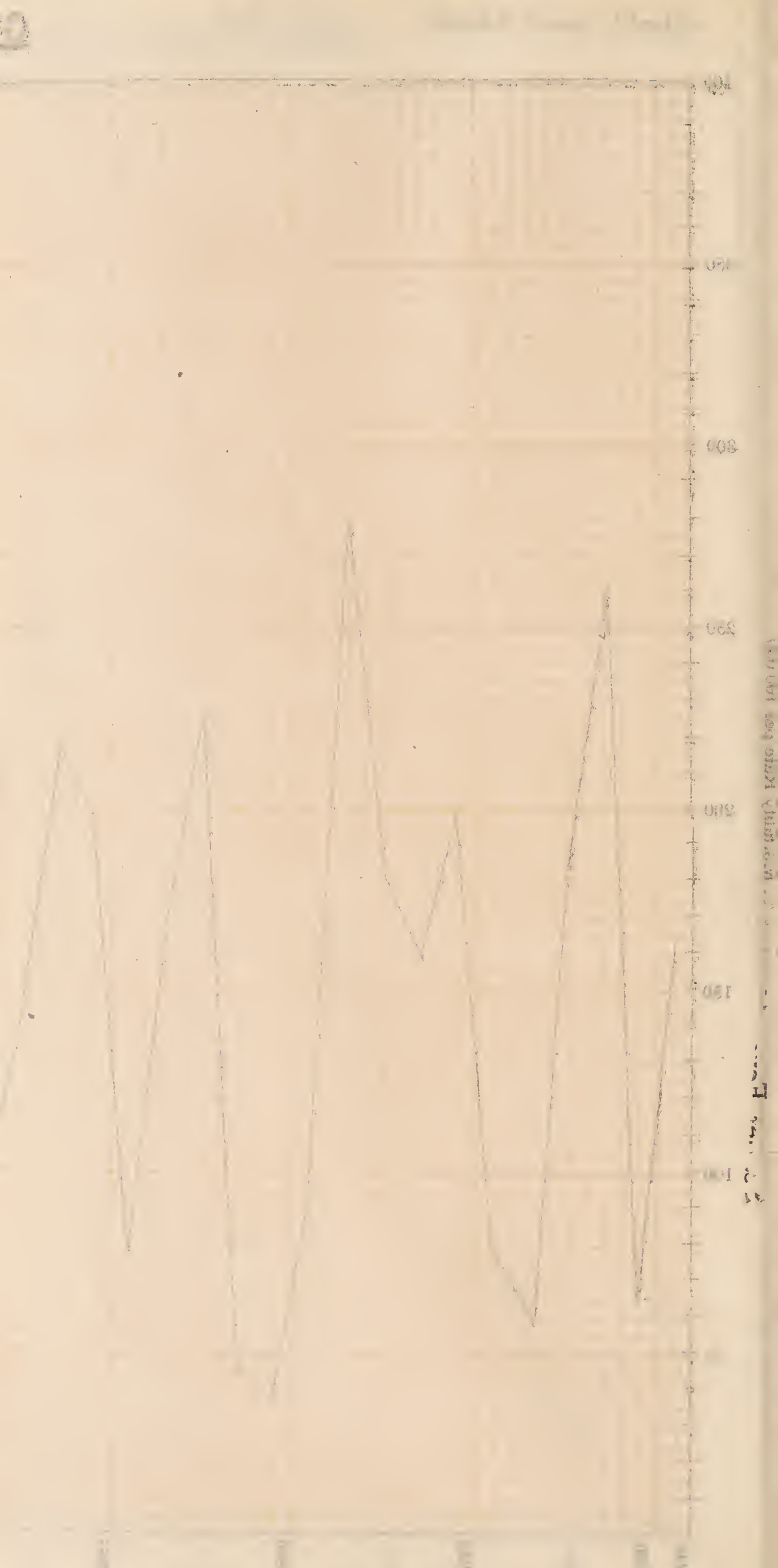
DIPHTHERIA.—1,959 cases of Diphtheria were notified in 1919, the disease being more prevalent than in the preceding years. The numbers of notified cases and of deaths, together with the percentage proportion of deaths to cases during the past ten years was as follows:—

| | 1909. | 1910. | 1911. | 1912. | 1913. | 1914. | 1915. | 1916. | 1917. | 1918. | 1919. |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cases | 1,278 | 1,135 | 1,334 | 1,110 | 1,085 | 1,377 | 1,247 | 1,114 | 1,022 | 1,302 | 1,959 |
| Deaths | 112 | 100 | 125 | 111 | 76 | 110 | 136 | 137 | 143 | 228 | 274 |
| Fatality rate per cent. | 9.0 | 9.0 | 9.6 | 10.0 | 7.2 | 7.8 | 11.0 | 12.2 | 13.9 | 17.5 | 14.0 |

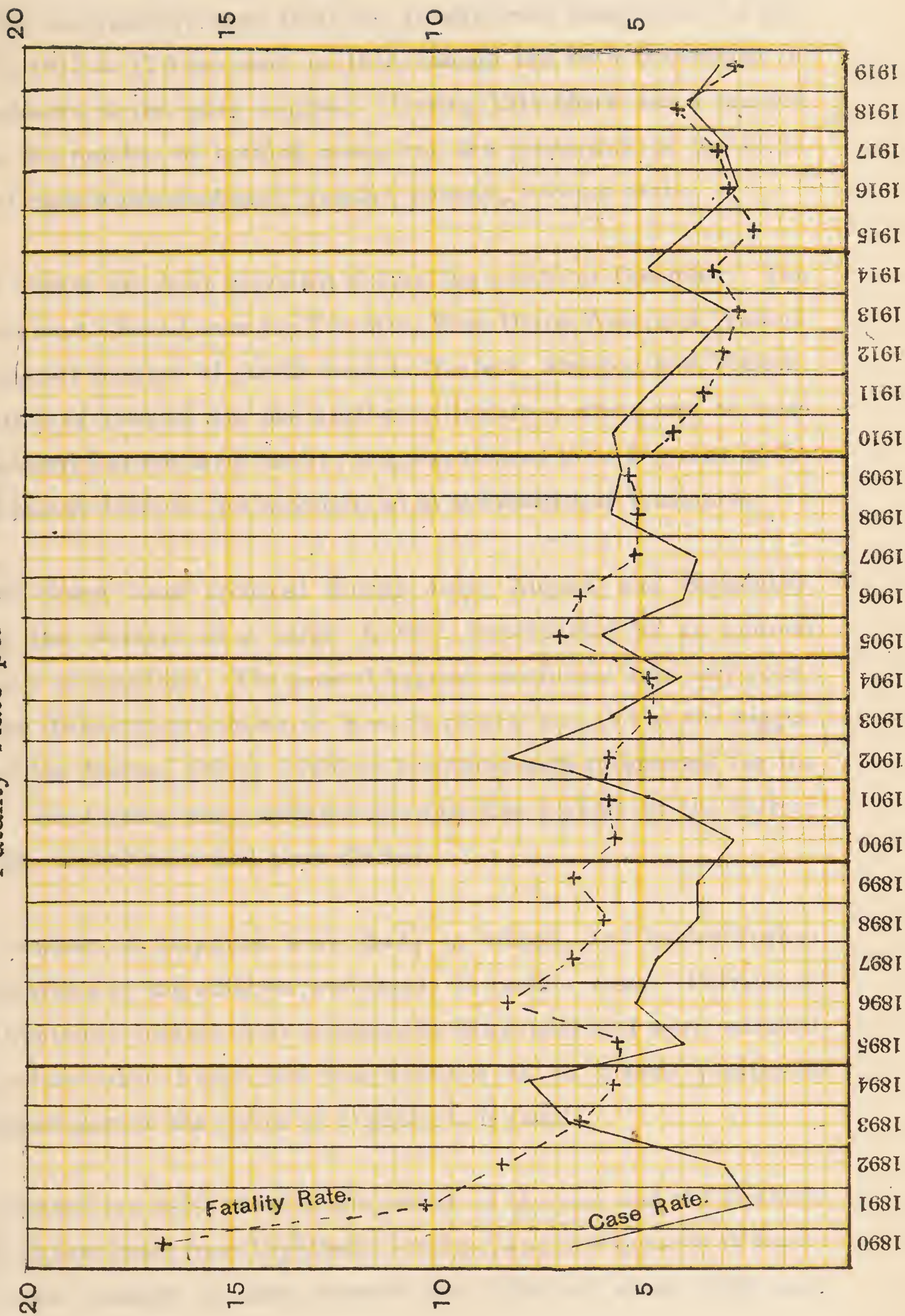
CITY OF LIVERPOOL.

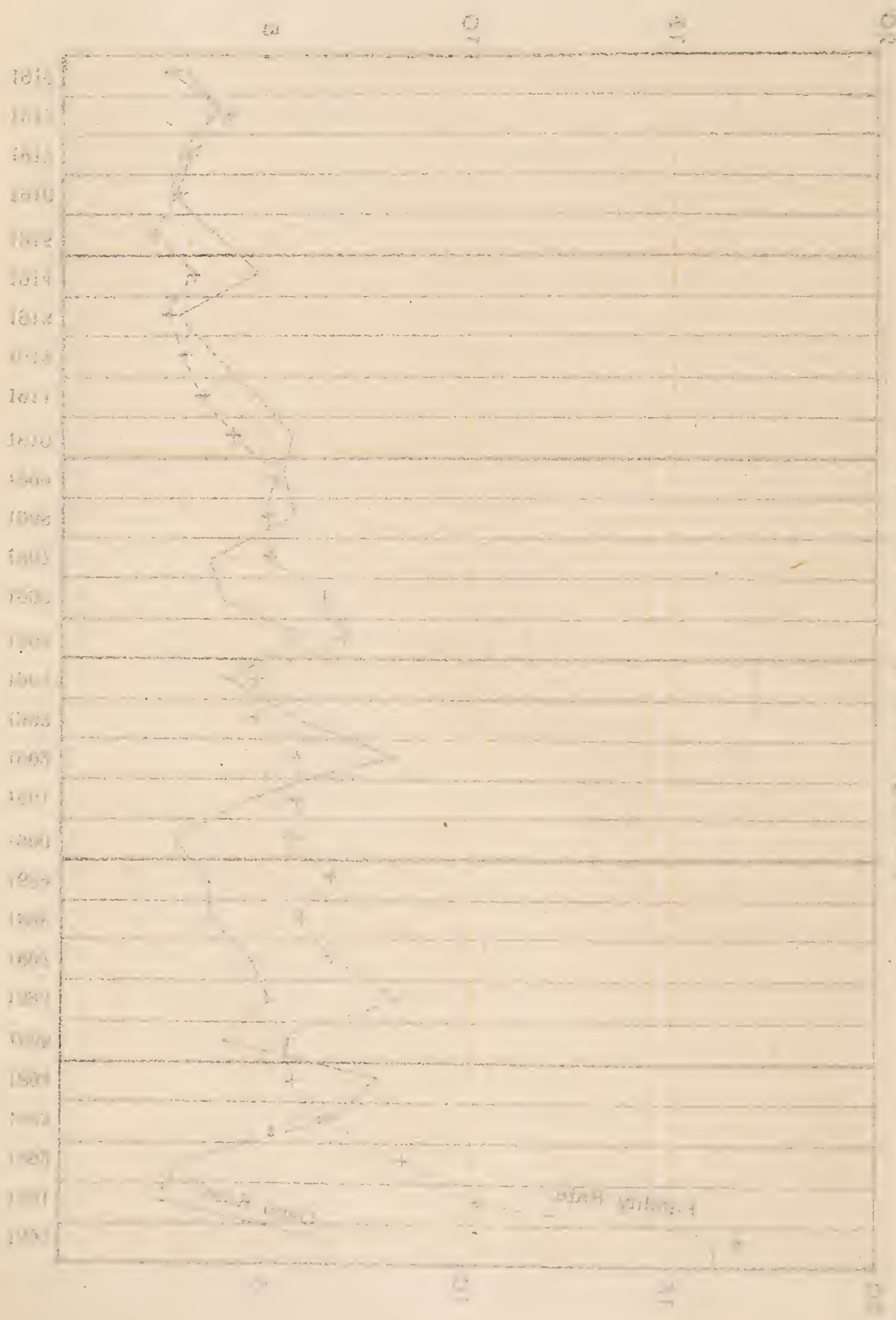
Scarlet Fever Death-Rate per 100,000. 1849-1919.





Scarlet Fever 1890-1919. Case Rate per 1000 Population, and
Fatality Rate per 100 Cases.





Small Yellow Fly 1901 to 1914. Cases per 1000. Percentage

It will be noticed that during the years of the war the disease was becoming progressively more fatal, the fatality rate rising from 7.2 per cent. in 1913 to 17.5 per cent. in 1918, though but little fluctuation in the incidence of the cases occurred. During 1919 there was a marked rise in the number of notified cases, but the proportion of deaths to notified cases was considerably smaller, namely, 10.8 per cent.

The disease was most prevalent during the month of December. The districts most affected were the Toxteths, West Derby West, and Walton. The greatest number of deaths were in Toxteth, Everton and Walton. A feature of interest was the number of instances where two or more cases occurred in the same family; this was noticed to be frequent in the above-named districts, but especially so in the district of Wavertree.

Some dozen cases occurred during July, August, and September, among the workers in a large factory, accompanied by an unusual incidence of tonsillitis. The general hygienic conditions were very good; common drinking cups, however, were in general use, and at the suggestion of the Medical Officer bubbling fountains were substituted for the cups. No further cases occurred amongst the workers in the factory after this substitution had been effected.

A number of enquiries were made in schools, and bacteriological examinations of the children were made in certain cases. Carriers of the Diphtheria bacillus were occasionally discovered and were excluded from school when found, but the evidence as to schools playing a prominent part in the spread of Diphtheria is small.

Appended is a table showing the periods of the year and the localities in which the deaths from Diphtheria occurred, and also the ages at death. The total number of cases reported was 1,959, of which 1669 were removed to hospital.

DEATHS FROM DIPHTHERIA.

| DISTRICTS. | QUARTERS. | | | | | | | | YEAR | | |
|-------------------------|-----------|-----|-------|-----|-------|-----|------|-----|------|----|--------|
| | March. | | June. | | Sept. | | Dec. | | | | |
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | Total. |
| Scotland | 1 | 3 | 3 | 1 | ... | 2 | ... | ... | 4 | 6 | 10 |
| Exchange | 1 | 4 | 1 | ... | ... | ... | ... | 1 | 2 | 5 | 7 |
| Abercromby | 2 | ... | 2 | 1 | 1 | ... | 2 | 2 | 7 | 3 | 10 |
| Everton | 6 | 1 | 7 | 6 | 1 | 2 | 8 | 8 | 22 | 17 | 39 |
| Kirkdale | 6 | 2 | ... | 1 | 1 | ... | 3 | ... | 10 | 3 | 13 |
| West Derby (West) | 2 | ... | 2 | 2 | 2 | 2 | 3 | 3 | 9 | 7 | 16 |
| Toxteth | 3 | 5 | 5 | 8 | 4 | 4 | 11 | 13 | 23 | 30 | 53 |
| Walton | 5 | 3 | 3 | 3 | ... | 1 | 3 | 2 | 11 | 9 | 20 |
| West Derby (East) | 2 | ... | 2 | 2 | 2 | ... | 4 | 2 | 10 | 4 | 14 |
| Wavertree | ... | 1 | 2 | ... | 2 | 2 | ... | 1 | 4 | 4 | 8 |
| Toxteth (East) | 3 | ... | 2 | 2 | ... | ... | 3 | 2 | 8 | 4 | 12 |
| (late Toxteth Rural). | | | | | | | | | | | |
| Garston | 1 | 3 | ... | 1 | ... | ... | ... | ... | 1 | 4 | 5 |
| Fazakerley,..... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 |
| Woolton..... | 2 | 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | 3 |
| City | 34 | 23 | 29 | 27 | 13 | 13 | 37 | 36 | 113 | 99 | 212 |

AGES AT DEATH

| Under
1 year. | 1— | 2— | 3— | 4— | 5— | 10— | 15— | 20— | 30 | 40— | 50— | 60— | All
Ages. |
|------------------|----|----|----|----|----|-----|-----|-----|----|-----|-----|-----|--------------|
| 9 | 29 | 33 | 28 | 29 | 69 | 10 | 2 | ... | 2 | 1 | ... | ... | 212 |

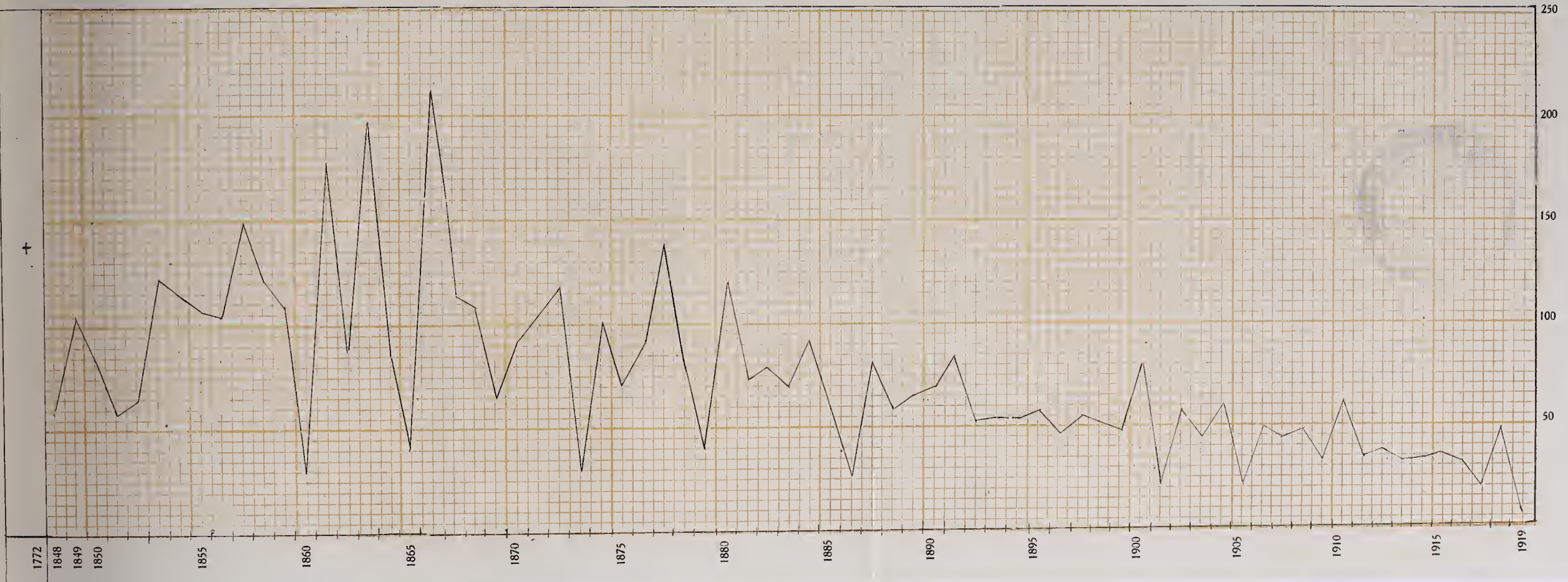
Deaths in Public Institutions are transferred to the Districts from whence the patients came.

CEREBRO-SPINAL FEVER.—Twenty-six cases of Cerebro-Spinal Fever were notified during 1919. The corresponding figures for the years 1914 to 1918 were 24, 36, 45, 37 and 22 respectively. The majority of the cases were amongst young children, in none of which was it possible to trace the infection to any military or naval source.

CITY OF LIVERPOOL.

Whooping Cough Death-Rate per 100,000 Population, 1848-1919,
and the months of highest Mortality.

January
June
June
February
—
May
January
{December
{January
July
{December
{January
January
June
February
{December
{January
December
March
{December
{January
January
{December
{January
February
December
July
{December
{February
September
January
February
June
January
May
June
May
—
October
May
March
Jan. & June
May
April-May
January
—
January
{November
{February
May
April
{December
{March
{December
{February
{December
{February
July
May
{December
{January
March
April
April
June
Jan.-March
April
April
May
{December
{February



Six cases occurred in persons over 15 years of age; three of these were recently demobilised soldiers or sailors, and in another case two soldiers home on leave at the time were found to be "carriers" of the meningococcus.

The number of deaths totalled 22.

Nineteen cases were removed to Hospital, two of them to Isolation Hospitals, and the greater number of the others to the David Lewis Northern Hospital, where provision was made for such cases.

POLIOMYELITIS.—Two cases of Poliomyelitis were notified during the year, one of which recovered completely and the other resulted in permanent paralysis.

ENCEPHALITIS LETHARGICA.—This disease became notifiable in the course of the year 1919, and information was received concerning two cases. One of these proved fatal; in the other case, a boy of 16 years, spastic paraplegia ensued. No possible source of infection was discovered in either case.

ANTHRAX.—Fourteen cases were reported during the year. Further reference to this disease will be found on page 20.

WHOOPING COUGH.—The number of cases coming to the notice of the department was 788, and the number of deaths 53. The accompanying diagram shows the incidence of the disease since 1848, the annual death-rates and the months of greatest prevalence being indicated. It will be observed that a very marked decline has occurred since the middle of last century, and that this decline is continuing at the present time.

MEASLES.—The number of cases reported during the year was 3,983. This is the smallest number since the disease was made notifiable under the Public Health (Measles and German Measles) Regulations, 1915. The number of deaths recorded from Measles was 103, which is the smallest number of deaths in the 72 years since records have been kept.

The following statement shows the means by which the cases came under the notice of the Medical Officer:—

- (a) Total cases notified, 3,983.
- (b) Notified by Medical Practitioners, 2,953
- (c) Notified by Schools, etc., 620.
- (d) Discovered by Health Visitors, 410.

The number of cases continued at a low level until the late Autumn, when the numbers began rapidly to rise. This rise continued into the Spring of 1920, and culminated in the week ending February 28th, when 980 cases were notified. Thereafter it rapidly declined.

Apart from the isolation of the patient, etc., the measures taken to prevent the extension of measles include the exclusion from school of children coming from a house in which cases have occurred; children over seven years of age who have had measles are exempted. In certain cases outbreaks in schools necessitate the closure of a school, or more frequently of the infants' department. This measure was adopted in two infants' departments in 1919, and in a number of departments in 1920; finally all infants' departments were closed for 14 days at the end of the Spring term.

The Order of the Ministry of Health authorises local authorities to provide medical assistance for the poorer inhabitants of their district, including nursing, and the Health Committee appointed four permanent nurses in 1916 to deal with such cases as were contemplated by the Order. This number has been increased in times of outbreak. In consequence of the visits of these nurses, not only have children benefited from the assistance and advice given, but many children have been removed for hospital treatment who would otherwise have been left at home without adequate care and attention. 9,678 visits were made by these nurses in the course of 1919, as follows:—

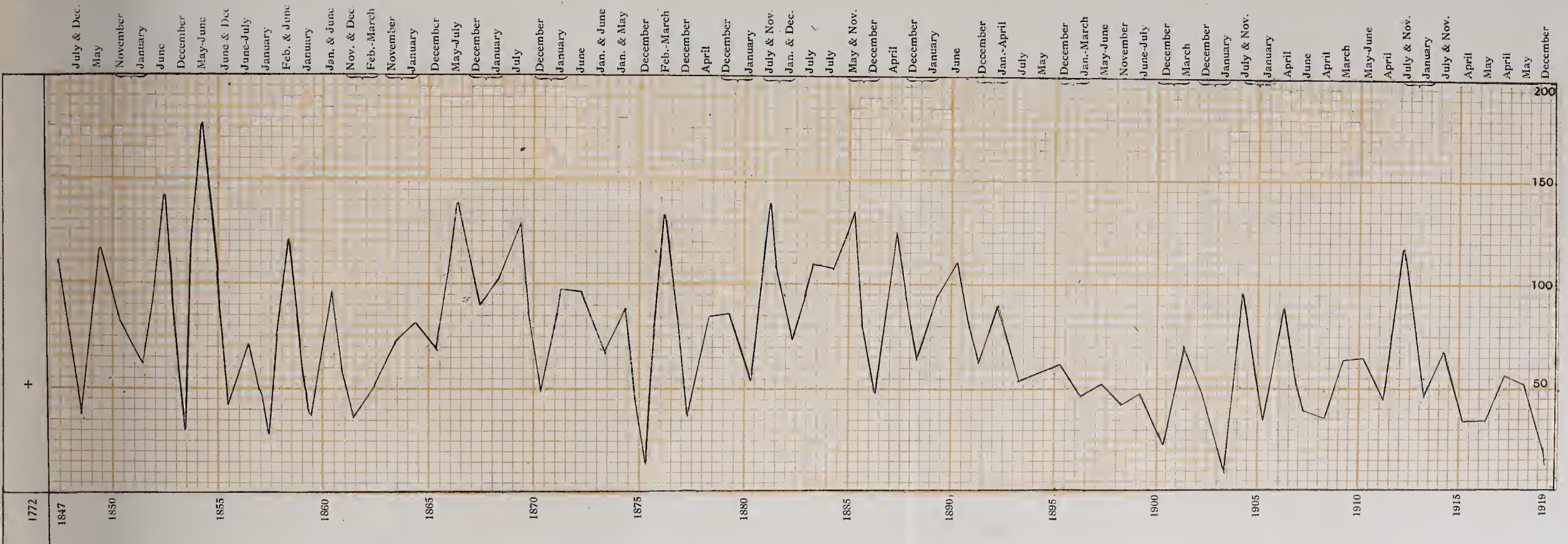
| | | | |
|------------------------------------|-----|-----|-------|
| New cases visited during year 1919 | ... | ... | 3,220 |
| Cases nursed | „ | „ | 838 |
| Re-visits to cases | „ | „ | 6,458 |

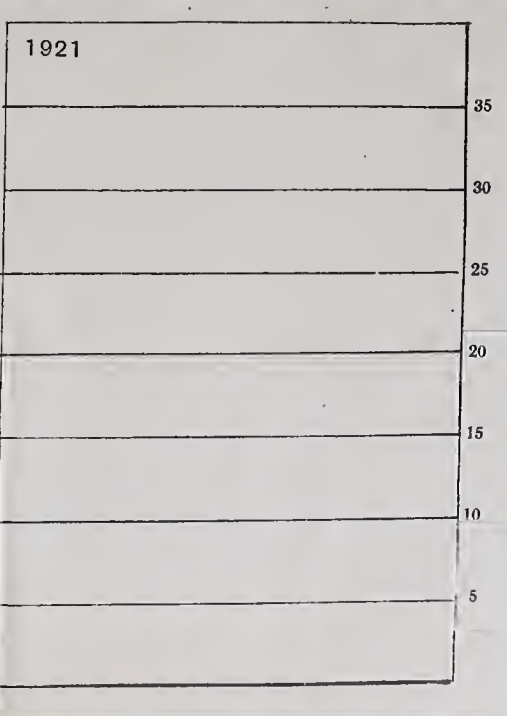
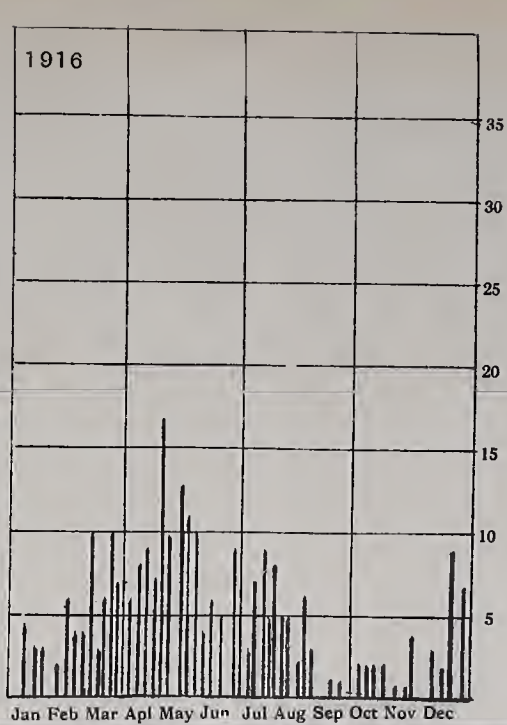
The Public Health (Measles and German Measles) Order was cancelled by the Ministry of Health as from January 1st, 1920. In view of the rising incidence of the disease, request was made to the Ministry for the Order to be extended until October 31st, 1920, and this was acceded to. There can be no doubt that this extension was attended by much benefit to the many children suffering from the disease.

Three diagrams illustrate the incidence of Measles in Liverpool. The first shows the annual death-rate from Measles since 1847 and also the month of greatest prevalence. The second shows the number of deaths

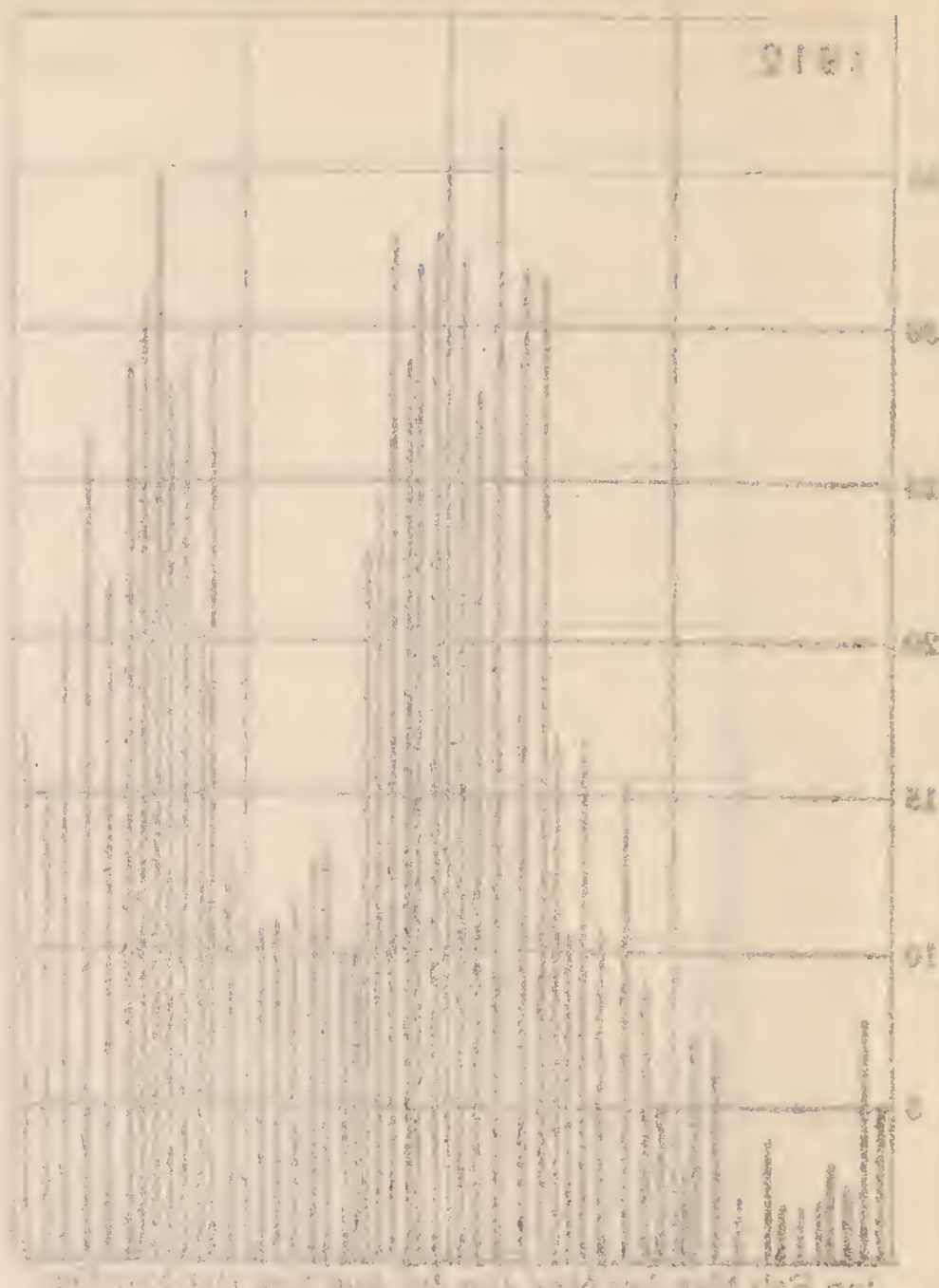
CITY OF LIVERPOOL.

Measles Death-Rate per 100,000 Population, 1847-1919,
and the months of highest mortality in each year.





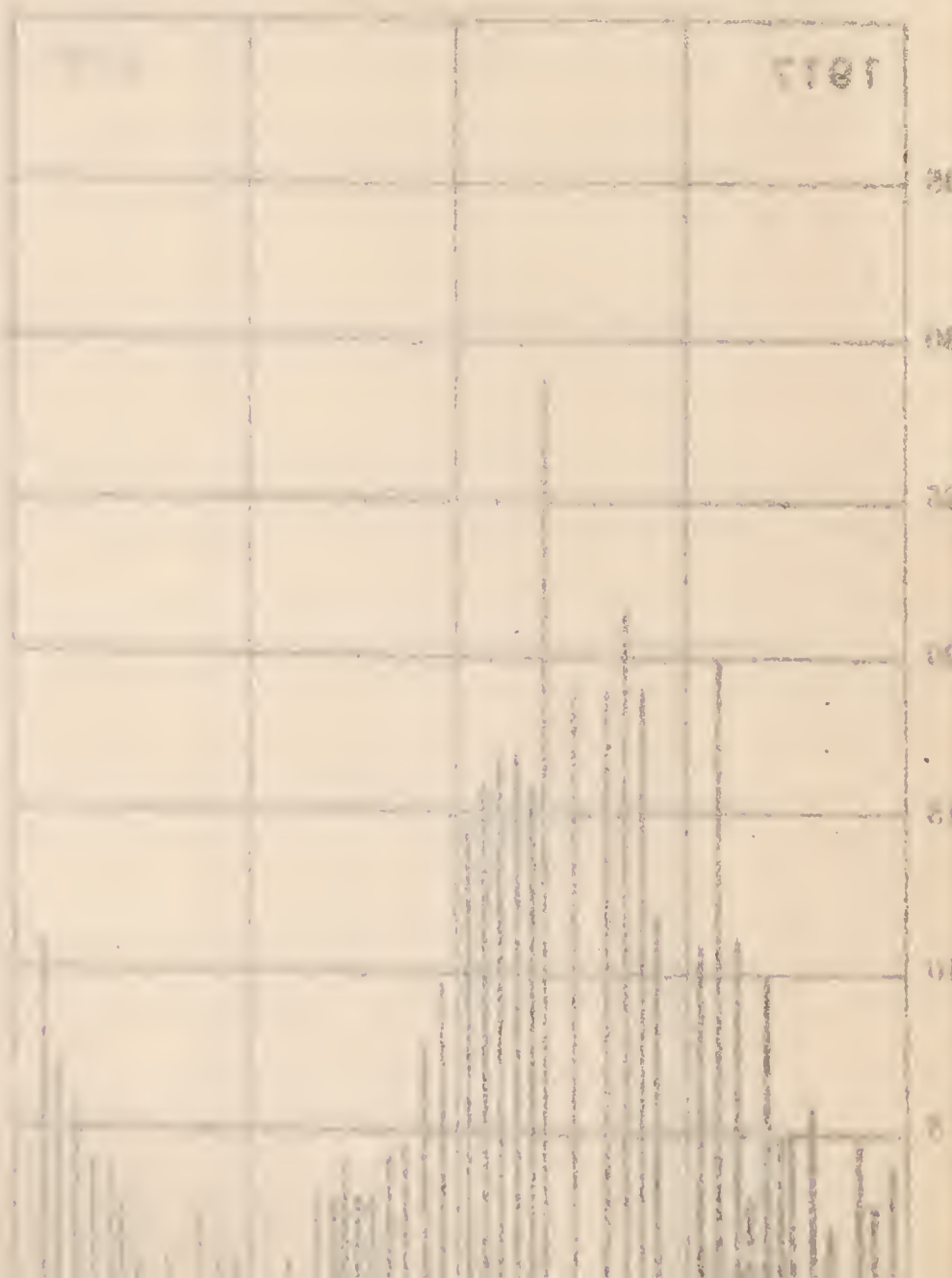
1815



1815



1815



1815



occurring weekly for the years 1912 onwards. A similar diagram was published in the Report of the Medical Officer for the year 1911, giving the deaths for the preceding decade. The third diagram shows for each week the number of cases and of deaths occurring weekly since the disease became notifiable in 1915. The proportion of deaths to notified cases has varied from 1.7 to 5.3 per cent. It will be noticed that the disease is usually less fatal during epidemic than during inter-epidemic periods.

The marked periodicity of Measles, which gives rise to epidemics at intervals of two years or less, is clearly shown by all three diagrams.

PUBLIC HEALTH (PNEUMONIA, DYSENTERY, ETC.). REGULATIONS, 1919.

These regulations came into force on March 1st, 1919. Under them, cases of Malaria, Dysentery, Trench Fever, Acute Primary Pneumonia, and Acute Influenzal Pneumonia became notifiable by Medical Practitioners. The following is the number of notifications of these diseases received under the regulations:—

| | | | | | |
|-----------------|-----|-----|-----|-----|-------|
| Acute Pneumonia | ... | ... | ... | ... | 1,359 |
| Malaria | ... | ... | ... | ... | 429 |
| Trench Fever | ... | ... | ... | ... | 3 |
| Dysentery | ... | ... | ... | ... | 28 |
| | | | | | 1,819 |
| | | | | | |

Enquiry was made into all these cases; numerous cases of Influenzal Pneumonia were visited and received assistance from nurses appointed for the purpose, and the services of other members of the staff who were trained nurses were utilised.

No cases of Malaria of indigenous origin came to light. The majority of the cases were amongst ex-soldiers who had been infected whilst on active service with the Salonica Expeditionary Force or in tropical climates. The remainder were amongst the sea-faring population and were principally among persons infected on the African Coast.

Two cases of Trench Fever were notified among ex-soldiers. Neither were infested with lice, and the provisions of the Order giving powers to local authorities to disinfect persons in a verminous condition did not require to be put in force.

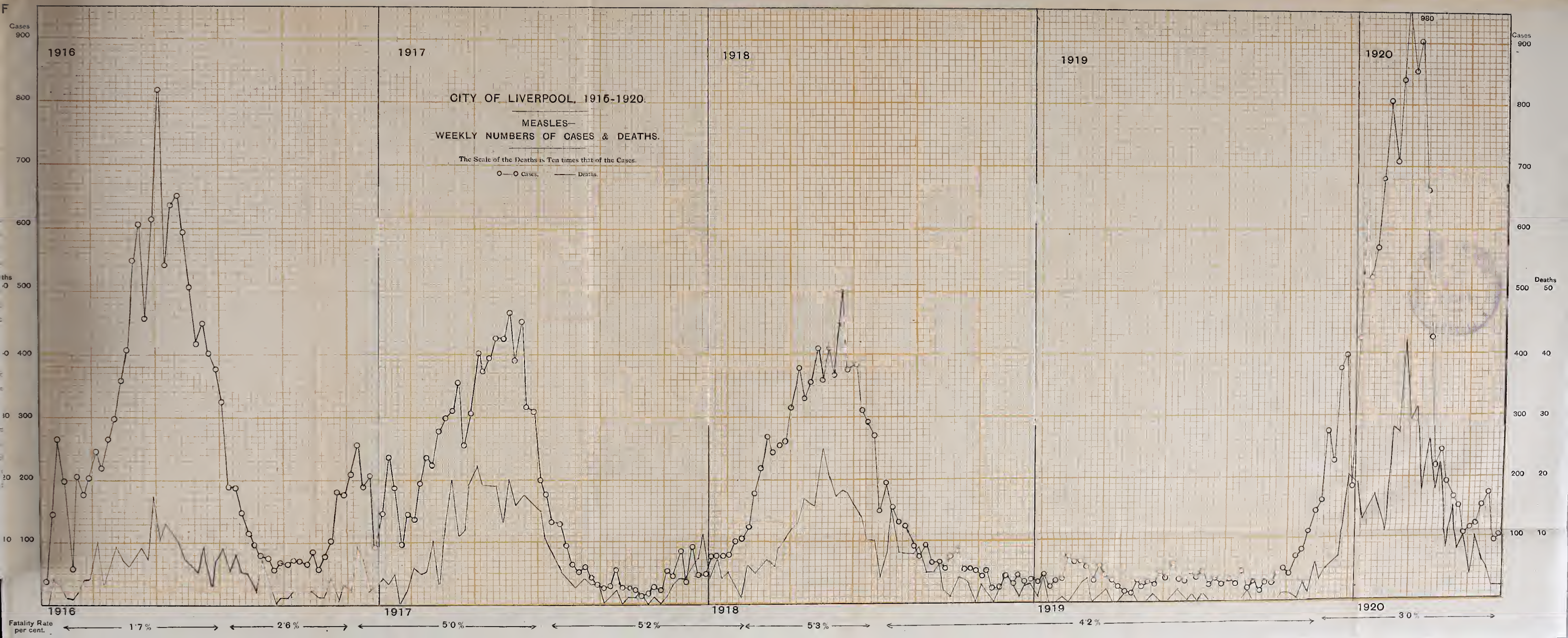
In all cases of Dysentery, enquiry was made as to the source of infection and as to the occupation of the patient. The majority were ex-soldiers. Where the patient was suffering from Chronic Dysentery he was notified that he was prohibited under the Regulations from handling foodstuffs intended for human consumption.

ANTHRAX.—Isolated cases of this disease occurred during the year, chiefly amongst those engaged in the handling of various animal products such as hides, skins, hair, wool, etc. There were 14 cases reported in the City, the infecting material being chiefly wool, horse-hair, hides and goat-skins. In one or two cases shaving brushes had probably caused the infection. Attention has been directed to shaving brushes as a possible cause of the disease since 1916, and a short outline of the steps taken and the large amount of work involved in tracing the sources of infection may be given:—

ANTHRAX INFECTED SHAVING BRUSHES.

During 1916 attention was directed to the danger from infection with Anthrax, owing to the use of infected shaving brushes by persons who were engaged in occupations not usually associated with Anthrax.

On September 14th, 1916, a clergyman in Mossley purchased a shaving brush whilst in Blackpool. A few days after using it he developed an anthrax pustule under the chin, and died from Anthrax on September 30th, 1916. The shaving brush was unfortunately destroyed, but it was ascertained it was one of a number supplied by a Liverpool dealer to the shop keeper in Blackpool.



1916



The premises of the Liverpool dealer were visited, and the shaving brushes remaining in stock were surrendered to the Medical Officer of Health. Three of these brushes were submitted to the City Bacteriologist and found to be infected with Anthrax, the remainder were destroyed.

This brush had a black handle and imitation badger hair, and was part of a consignment obtained by a London merchant from a firm in New York.

On October 24th, 1916, a boilermaker suffering from malignant pustule was landed at Halifax, Nova Scotia, from a steamer from Liverpool, and he died there on October 30th. The ship's surgeon suspected shaving brush infection, and on his return to Liverpool on November 11th, he made enquiries.

It was found that the deceased had been presented with a shaving brush set, which included an imitation badger hair brush in a metal handle. This brush was examined and found to be infected with Anthrax, as was also a brush from a similar shaving set purchased from the same shop. Enquiries were made, and it was found that the shaving set was supplied by a firm in New York.

Shaving brushes were subsequently purchased, more or less at random, from various shops throughout the City, and, as indicated in the following table, 70 brushes were submitted to the City Bacteriologist and 22 were found to be infected with Anthrax.

The unsold brushes which remained in the possession of the local dealers were recovered and destroyed.

REPORTS ON SHAVING BRUSHES SENT FOR EXAMINATION,
NOVEMBER 18th TO DECEMBER 21st, 1916.

| Sample Number. | No. of Brushes. | Kind of Handle. | Kind of Hair or Bristles. | RESULT. | |
|-------------------|-----------------|----------------------|---------------------------|-----------|-----------|
| | | | | Positive. | Negative. |
| 566 | 1 | Metal & Mirror | — | 1 | ... |
| 1953 &
1955—60 | 9 | Black wood | Goats' | 4 | 5 |
| 1973—75 | 2 | White bone | Cheap | — | 2 |
| 1977—80 | 2 | Black wood & metal | — | — | 2 |
| 1982 | 1 | White wood & metal | — | — | 1 |
| 1983—84 | 2 | White bone | Superior | 2 | — |
| 1986—87 | 2 | Black wood | Goats' | 2 | — |
| 1988—89 | 2 | White bone | Superior | 1 | 1 |
| 1990 | 1 | Metal | — | 1 | — |
| 1991 | 1 | White bone & metal | — | — | 1 |
| 1992—1999 | 8 | White bone | Superior & goats' | 8 | — |
| 2000—2002 | 3 | Black wood | Goats' | — | 3 |
| 2003—2005 | 3 | White bone | Superior | 1 | 2 |
| 2006 | 1 | White bone & metal | — | — | 1 |
| 2007—2016 | 10 | White bone | Imitation badger | 1 | 9 |
| 2017 | 1 | String bound | Hog | — | 1 |
| 2019—2024 | 6 | White bone | Mixed badger | — | 6 |
| 2025—2026— | 2 | White bone | Pure badger | — | 2 |
| 2027—2030 | 4 | White bone | Mixed badger | — | 4 |
| 2031 | 1 | Black wood | Mixed badger | — | 1 |
| 2032—2039 | 8 | White bone | Imitation badger | 1 | 7 |
| | 70 | | | 22 | 48 |

During November and December, 1919, three cases of Anthrax were reported in the City, two of which were attributed to the use of infected shaving brushes.

In the first of these cases, the patient, who was the principal of a Motor Car Company, purchased a shaving brush on November 14th, 1919, and on Sunday, November 16th, he was seen by his doctor, who found the patient's chin and neck swollen and inflamed. The doctor was informed that the patient had used a new shaving brush on Saturday, 15th, and also that he cut his chin whilst shaving. He was removed to Hospital on November 19th, and died on November 21st. The cause of death was certified as Anthrax.

The shaving brush used by the deceased, which was said to have been purchased from a local chemist, was examined, and found to be infected with Anthrax, but upon enquiries it was found it was not the same type of brush as sold by the local chemist.

The firm of wholesalers who supplied the chemist with shaving brushes were subsequently seen, and shown the handle of the infected brush, and they stated that no such type of brush had been stocked or sold by them during the past four years.

Brushes obtained from this chemist's shop were found not to be infected with Anthrax.

On Monday, December 22nd, 1919, a man employed as a greaser on the s.s. "Continental Bridge" was admitted to the Southern Hospital suffering from Anthrax, and, after treatment in Hospital, recovered.

Enquiries were made, and it was found that the patient purchased a brush from a shop in the City, and had used it for shaving; this brush was submitted to the City Bacteriologist, and found to be infected with Anthrax.

All shaving brushes of this pattern which the shop keeper had in stock were surrendered to the Medical Officer of Health and destroyed.

Shaving brushes of a similar pattern which had been distributed throughout the City and remained unsold were also collected and destroyed.

In consequence of these cases of Anthrax in Liverpool, and as the result of communications from the Medical Officers of other Districts, relative to cases of Anthrax, careful enquiries were made, and it was

ascertained that shaving brushes similar to those used by the patients were being distributed throughout the City by importers and wholesale dealers in London and Paris.

As a result of these enquiries, it transpired that over 10,500 shaving brushes of the patterns found to be infected with Anthrax had been received in Liverpool, and of these 5,314 brushes were collected. Of this number 4,241 were destroyed with the consent of the retailer or the wholesale dealer; 1,073 are at present in the possession of the Medical Officer awaiting instructions from the shop keepers or wholesalers, and 340 are in the possession of the wholesale dealers, who are awaiting instructions in respect to compensation. The remaining 4,864 brushes were found to have been distributed to retailers and others in Districts situated outside the City, and in each case the Medical Officer for the respective District was advised, and prompt action appears to have been taken.

REPORTS ON SHAVING BRUSHES SENT FOR EXAMINATION,
NOVEMBER 11th TO DECEMBER 31st, 1919.

| Sample Number. | No. of Brushes. | Kind of Handle. | Kind of Hair or Bristles. | RESULT. | |
|----------------|-----------------|--------------------|---------------------------|-----------|-----------|
| | | | | Positive. | Negative. |
| 2265 & 2268—75 | 9 | White bone | Imitation badger | 3 | 6 |
| 2275A | 1 | Wood, string bound | Plain hair | — | 1 |
| 2276—79 | 4 | White bone | Imitation badger | — | 4 |
| 2280 | 1 | Wood, metal mount | Imitation badger | — | 1 |
| 2281 | 1 | String bound | Plain hair | — | 1 |
| 2282—4 | 3 | White bone | Imitation badger | — | 3 |
| 2285 | 1 | Plain wood | Black hair | — | 1 |
| 2286 | 1 | Wood, nickel mount | Plain hair | — | 1 |
| 2287 to 2330 | 27 | White bone | Imitation badger | 12 | 15 |
| | 48 | | | 15 | 33 |

In consequence of a large number of shaving brushes being found to be infected with Anthrax, the matter was further investigated, and it was found that a large consignment of shaving brushes imported from Japan, had been received in London and distributed in Liverpool and other places. Steps were at once taken to prevent the sale of these brushes, and in view of previous experience from foreign imported brushes, warning was given to other cities and towns where the brushes had in all probability been distributed, and the following notice was inserted in the local Press:—

“ City of Liverpool.

“ Shaving Brushes infected with Anthrax.

“ The attention of Retailers of Shaving Brushes and of the
 “ Public is called to the fact that a large consignment of white
 “ bone-handled imitation badger shaving brushes has been found
 “ to be dangerously contaminated with Anthrax.

“ The trade pattern numbers of these shaving brushes are respec-
 “ tively 1,736, 2,592, and 5,238.

“ Retailers having any brushes of these numbers in their possession
 “ are requested to communicate at once with the Medical Officer
 “ of Health, Public Health Department, Municipal Buildings,
 “ Liverpool.

As a result of this Notice, several retailers submitted shaving brushes for examination, and in five instances the brushes were found to be infected with Anthrax.

It appears that on a previous outbreak, a careful investigation was made by the then Local Government Board into the circumstances.

Early in 1919 a Consultative Council was formed by the Board of Trade to enquire into the brush industry and importation of foreign-made brushes. The Consultative Council sent a strong recommendation to the Board of Trade against the importation of foreign-made brushes, because of the insanitary conditions under which they were manufactured. The Imports Consultative Council recommended the limitation of the importation of the cheaper Japanese brushes, but the Board of Trade published a decision on the importation of brushes entirely contrary to the advice of the Consultative Council.

On January 29th, 1920, the Medical Officer of Health intimated to the Health Committee that 332 dozen shaving brushes of the kind known to be infected with Anthrax had been collected from wholesale and retail dealers within the City. Of these, 127 had been submitted to the City Bacteriologist for analysis, and 30 of nine different patterns were certified to be infected with Anthrax; in addition 72 brushes which had given negative results were of the same pattern as those proved to be infected.

In the course of the enquiries, made mainly through wholesale dealers, it would appear that some 760 dozen brushes of pattern numbers corresponding to the infected brushes had been consigned to Liverpool. The disposal of those of the brushes which had left Liverpool has been traced to other districts, and the Medical Officers of Health and the traders in those districts have been advised. One consignment of 62 dozen brushes, with the consent of the supplier to the Liverpool firm, has been destroyed. The value of the consignment was approximately £50.

Whilst the local firms are not unwilling that these brushes should be destroyed, they feel that the loss should fall upon the consignors of the infected goods rather than upon them—a view which appears to be a very reasonable one. The consignors, however, desire that the infected brushes should be returned to them in order that they may be passed back to the firm which originally imported them. It is obvious that if such a course were consented to, the provision of the Public Health Act in regard to the transmission of infected articles would be infringed, nor must the possibility be lost sight of that the brushes may be re-imported into the country. Under the Public Health Act the Committee is empowered to give compensation for the infected articles; this course appears to be undesirable because it would be inviting, or at any events making easy, the importation of further consignments of similar goods.

The Medical Officer recommended that an appropriate course would be to ask the Foreign Office, through the Ministry of Health, to communicate with the Japanese Government, asking them to take up the question with the firms which exported the goods from Japan. The responsibility for compensation would then be placed upon the proper shoulders, and, which is of still greater importance, due emphasis would be placed upon the incident, and the further exportation of Anthrax infected shaving brushes possibly prevented.

On 9th February, 1920, an Order was made prohibiting the importation into the United Kingdom of shaving brushes manufactured in, or exported from the Empire of Japan:—

WHEREAS by Section 1 of the Anthrax Prevention Act, 1919, it is enacted (*inter alia*) that His Majesty may, by Order in Council, make provision for preventing the importation into the United Kingdom of goods infected or likely to be infected with Anthrax, and that an Order so made may declare that goods of any specified class which are of any specified origin, or are exported from any specified country or place, are goods likely to be infected with Anthrax, and that any such declaration shall be conclusive for all purposes.

AND WHEREAS it appears to His Majesty, and it is hereby declared, that shaving brushes manufactured in the Empire of Japan, or exported therefrom, are goods likely to be infected with Anthrax.

Now, therefore, His Majesty, by and with the advice of His Privy Council, in pursuance of the powers conferred on him by the said Act, and of all other powers enabling him, in that behalf, is pleased to order, and it is hereby ordered, as follows:—

1. This Order may be cited as the Anthrax Prevention (Shaving Brushes) Order, 1920.
2. On and after the date of this Order the importation into the United Kingdom of shaving brushes manufactured in or exported from the Empire of Japan shall be prohibited.
3. This Order applies in the case of shaving brushes as aforesaid, whether such shaving brushes are exported direct to the United Kingdom or otherwise.
4. The provisions of the Customs Consolidation Act, 1876, and more particularly Section 42, 177, 186, 202, and 207 of that Act (which relate to penalties by way of forfeiture and otherwise), shall apply as respects any shaving brushes of which

the importation is prohibited under this Order as though such shaving brushes were goods whereof the importation is prohibited under Section 42 of that Act.

Shaving brushes are purchased weekly from shops in the City and are submitted to the City Bacteriologist for examination.

In the cases where the brushes are found to be infected, it is usual for the retailer to hand over unsold brushes for destruction.

DISINFECTION OF HAIR AND WOOL.

The liability of infection from the handling of various dangerous wools and hair has long been recognised. Hitherto these infected wools have been dealt with at the Factories under special regulations of the Home Office. The danger was much minimised by these methods, but it has been finally decided by the recent Departmental Committee that the existing regulations are unequal to the task of coping with the prevention of the disease, and it was felt that further precautions were necessary. The Committee recommend that the policy of attempting to control the danger of infection from Anthrax in wool and hair by Regulations under Factory Acts should be abandoned and the principle of compulsory disinfection substituted, also that this disinfection should be permitted only at Central Disinfecting Stations. It was pointed out that the Ports through which wool is exported to this Country appeared to offer advantages as the points at which Central Disinfecting Stations should be established.

It is the intention of the Home Office to establish an experimental disinfecting station at Liverpool for the disinfection of all imported dangerous wools. The building will be erected in close proximity to the Dock Board Wool Warehouse.

It is intended that all such wools shall be allowed to land only at fixed Ports, unless accompanied by a certificate of disinfection.

The process of disinfection which has been arranged is in the following four stages:—

Stage I.—Preliminary treatment, consisting of agitation (by means of rakes which thrust the wool through liquid as in scouring machinery) for 20 minutes in a solution of soap in water (preferably also containing an alkali like sodium or potassium carbonate) at a temperature of 102° to 110° F., assisted by squeezing through rollers. The protection afforded to the spores is by this means removed, the spores are rendered susceptible to the action of disinfectants, and the wool is cleansed.

Stage II.—Disinfecting treatment, in which the material is agitated by similar means for 20 minutes in a $2\text{-}2\frac{1}{2}$ per cent. solution of formaldehyde in water at a temperature of 102° F., assisted by squeezing through rollers. In this stage the bulk of the anthrax spores is destroyed, those only surviving which are imbedded in remnants of bloodclots which in a few instances may have escaped complete disintegration during Stage I, but which become saturated with formaldehyde solution.

Stage III.—Drying in a current of air heated to 160° F. The moisture in the wool is driven off, and nearly all the surviving spores in any blood remnants are destroyed.

Stage IV.—Standing for some days to ensure, by the progressive action of the formaldehyde which remains in the blood remnants, the complete destruction of the few weakened spores which have survived Stage III.

The following table shows the number, monthly distribution, and nature of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the year 1919:—

| YEAR—1919. | FEVER. | | Plague. | Scarlet Fever. | Measles and German Measles. | Diphtheria and Group. | Smallpox. | Puerperal Fever. | Erysipelas. | Cerebro-spinal Fever. | Poliomyelitis. | Ophthalmia Neonatorum. | Anthrax. | Pneumonia & Influenzal Pneumonia. | Malaria. | Trench Fever. | Dysentery. | Encephalitis Lethargica. | |
|---------------------|---------|----------|---------|----------------|-----------------------------|-----------------------|-----------|------------------|-------------|-----------------------|----------------|------------------------|----------|-----------------------------------|----------|---------------|------------|--------------------------|----|
| | Typhus. | Enteric. | | | | | | | | | | | | | | | | | |
| January ... | ... | 1 | ... | 215 | 159 | 166 | 1 | 3 | 34 | 1 | ... | 49 | ... | ... | ... | ... | ... | ... | |
| February ... | ... | 3 | ... | 176 | 263 | 134 | 1 | 2 | 29 | 1 | ... | 50 | ... | ... | ... | ... | ... | ... | |
| March | ... | 4 | ... | 140 | 185 | 115 | 2 | ... | 36 | 2 | ... | 40 | 2 | 508 | 31 | 2 | 10 | 1 | 1 |
| April | ... | 2 | ... | 156 | 108 | 129 | ... | 2 | 32 | 2 | ... | 68 | 3 | 131 | 26 | ... | ... | ... | |
| May | ... | 2 | ... | 165 | 192 | 168 | ... | 5 | 44 | 8 | ... | 69 | 1 | 127 | 44 | ... | 5 | ... | |
| June | ... | 2 | ... | 188 | 217 | 188 | 1 | 4 | 31 | 4 | ... | 49 | ... | 76 | 28 | ... | 3 | ... | |
| July | ... | 4 | 1 | 211 | 158 | 126 | 3 | 3 | 42 | 2 | ... | 58 | ... | 48 | 54 | ... | 1 | ... | |
| August | ... | 3 | ... | 148 | 139 | 121 | 5 | 8 | 36 | 1 | ... | 43 | ... | 42 | 61 | 1 | 2 | 1 | |
| September | ... | 12 | ... | 302 | 109 | 162 | ... | 5 | 43 | 2 | 1 | 70 | ... | 55 | 52 | ... | 4 | ... | |
| October..... | ... | 2 | ... | 371 | 284 | 244 | ... | 6 | 74 | 1 | ... | 69 | 1 | 111 | 29 | ... | 1 | ... | 1 |
| November | ... | ... | ... | 369 | 720 | 204 | ... | 11 | 96 | 1 | ... | 57 | 4 | 128 | 41 | ... | 2 | ... | 1 |
| December... | ... | 4 | ... | 356 | 1449 | 202 | ... | 6 | 67 | 1 | 1 | 50 | 3 | 133 | 63 | ... | ... | ... | 2 |
| TOTAL ... | ... | 39 | 1 | 2797 | 3983 | 1959 | 13 | 55 | 564 | 26 | 2 | 672 | 14 | 1359 | 429 | 3 | 28 | 2 | 11 |
| Removed to hospital | ... | 32 | 1 | 2216 | 257 | 1669 | 13 | 37 | 147 | 17 | 1 | 98 | 14 | 444 | 81 | ... | 19 | 1 | 5 |

The number of patients removed to hospital includes those admitted to the general hospitals, as well as those admitted to the city infectious diseases hospitals.

* Notifiable as from 1st March, 1919

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in the City of Liverpool during 1919:—

| | |
|--------------------------------|-----------------------------|
| Anthrax | Ophthalmia Neonatorum |
| Anterior Poliomyelitis | Paratyphoid Fever |
| Cerebro Spinal Fever | Plague |
| Cholera. | Pneumonia, Acute Influenzal |
| Continued Fever | Pneumonia, Acute Primary |
| Diphtheria | Polioencephalitis, Acute |
| Dysentery | Puerperal Fever |
| Enteric | Relapsing Fever |
| Erysipelas | Scarlet Fever or Scarlatina |
| Encephalitis Lethargica, Acute | Smallpox |
| German Measles | Tuberculosis (all forms) |
| Measles | Trench Fever |
| Malaria | Typhoid Fever |
| Membranous Croup | Typhus Fever. |

The numbers of notifications received by the Medical Officer during the past three years, were as follows:—

| | | | | <u>1917.</u> | | <u>1918.</u> | | <u>1919.</u> |
|-----------|-----|-----|-----|---------------|-----|---------------|-----|---------------|
| January | ... | ... | ... | 745 | ... | 766 | ... | 548 |
| February | ... | ... | ... | 778 | ... | 880 | ... | 493 |
| March | ... | ... | ... | 1,182 | ... | 1,266 | ... | 917 |
| April | ... | ... | ... | 1,284 | ... | 1,573 | .. | 620 |
| May | ... | ... | ... | 1,655 | ... | 1,822 | ... | 772 |
| June | ... | ... | ... | 1,181 | ... | 1,332 | ... | 706 |
| July | ... | ... | ... | 649 | ... | 998 | ... | 653 |
| August | ... | ... | ... | 389 | ... | 715 | ... | 554 |
| September | ... | ... | ... | 510 | ... | 714 | ... | 736 |
| October | ... | ... | ... | 689 | ... | 723 | ... | 1,105 |
| November | ... | ... | ... | 774 | ... | 507 | ... | 1,389 |
| December | ... | ... | ... | 731 | ... | 637 | ... | 1,997 |
| | | | | <u>10,567</u> | | <u>11,933</u> | | <u>10,490</u> |

The diseases specified were:—

| | <u>1917.</u> | <u>1918.</u> | <u>1919.</u> |
|--------------------------------------|---------------|---------------|---------------|
| Smallpox | 1 | 1 | 8 |
| Scarlet Fever | 2,133 | 2,713 | 2,592 |
| Enteric Fever | 83 | 68 | 68 |
| Typhus Fever | 1 | 4 | 3 |
| Puerperal Fever | 34 | 27 | 60 |
| Diphtheria and Croup | 1,047 | 1,333 | 1,807 |
| Erysipelas... .. | 416 | 487 | 564 |
| Anthrax | 8 | 12 | 18 |
| Cerebro-Spinal Fever | 37 | 22 | 45 |
| Acute Poliomyelitis | 3 | 3 | 5 |
| Measles and German
Measles | 6,288 | 6,676 | 2,953 |
| Ophthalmia
Neonatorum | 516 | 587 | 672 |
| †Influenzal Pneumonia | — | — | 1,269 |
| †Malaria | — | — | 395 |
| †Trench Fever | — | — | 2 |
| †Dysentery... .. | — | — | 26 |
| Encephalitis Lethargica | — | — | 3 |
| | <u>10,567</u> | <u>11,933</u> | <u>10,490</u> |

† Notifiable as from 1st March, 1919.

The following table gives a summary of cases of Infectious Disease coming under the notice of the Medical Officer of Health during the last six years:—

| DISEASE. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 |
|----------------------------|-------|-------|---------|-------|-------|-------|
| Smallpox | 1 | — | — | 2 | — | 13 |
| Plague | 10 | — | 6 | — | — | 1 |
| Typhus Fever | — | 37 | 1 | 1 | 2 | — |
| Enteric Fever | 177 | 136 | 76 | 54 | 65 | 39 |
| Scarlet Fever | 3,712 | 2,984 | 2,148 | 2,277 | 3,020 | 2,797 |
| Measles and German Measles | 6,426 | 3,049 | 14,732* | 9,230 | 9,268 | 3,983 |
| Diphtheria | 1,258 | 1,208 | 1,106 | 1,117 | 1,494 | 1,959 |
| Puerperal Fever..... | 56 | 54 | 52 | 33 | 28 | 55 |
| Erysipelas | 898 | 749 | 579 | 383 | 454 | 564 |
| Cerebro-Spinal Fever | 33 | 30 | 37 | 34 | 17 | 26 |
| Poliomyelitis | 37 | 5 | 9 | 4 | 6 | 2 |
| Ophthalmia Neonatorum ... | 461 | 503 | 515 | 516 | 587 | 672 |
| Anthrax | 8 | 6 | 15 | 7 | 10 | 14 |

* Measles became notifiable on 1st January, 1916.

DEATHS FROM INFECTIOUS DISEASE.

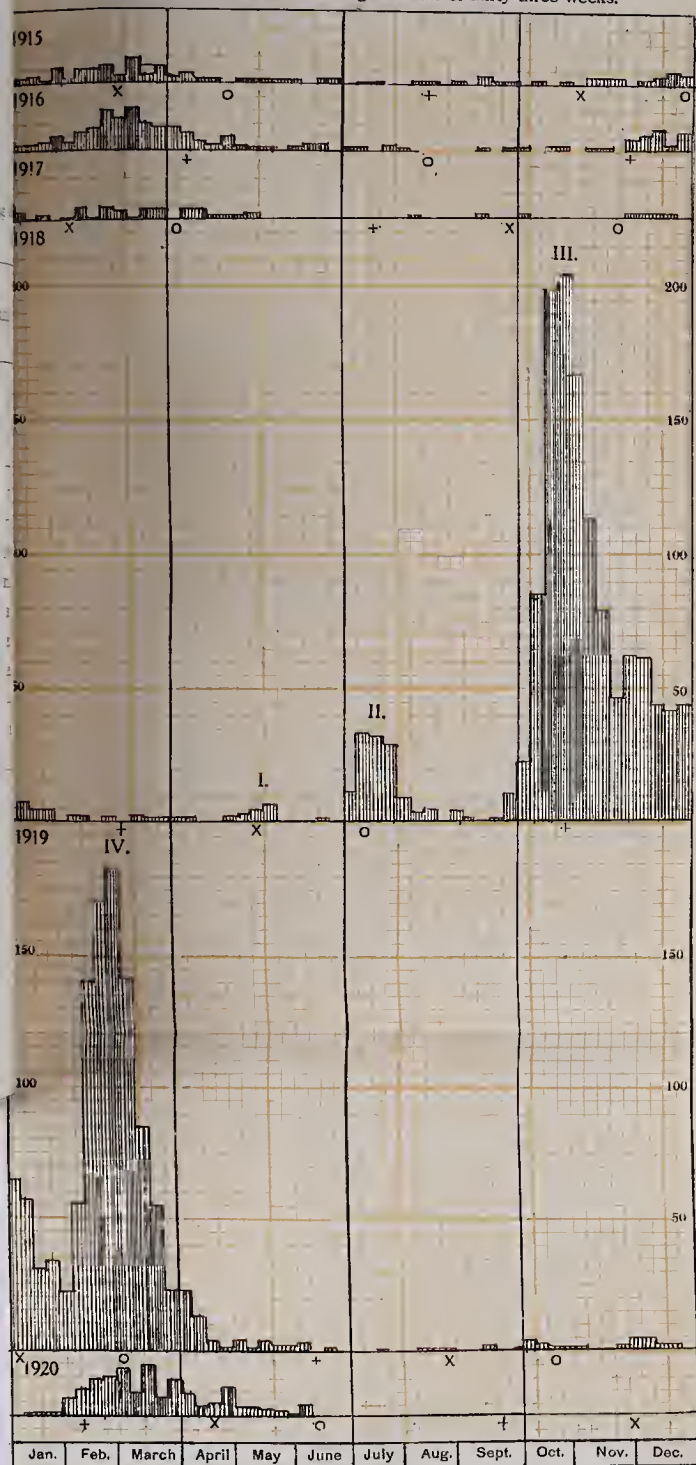
Table shewing the deaths from Infectious Disease occurring during the last six years (1914-1919):—

| DISEASE. | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 |
|----------------------------|------|------|------|------|------|------|
| Smallpox | — | — | — | 1 | — | 1 |
| Plague | 1 | — | 4 | — | — | 1 |
| Typhus Fever..... | — | 6 | 2 | — | — | — |
| Enteric Fever | 44 | 21 | 11 | 15 | 13 | 7 |
| Scarlet Fever | 123 | 70 | 63 | 71 | 133 | 74 |
| Measles and German Measles | 517 | 256 | 264 | 436 | 407 | 103 |
| Diphtheria | 110 | 136 | 137 | 143 | 228 | 212 |
| Puerperal Fever..... | 31 | 27 | 22 | 16 | 17 | 20 |
| Erysipelas | 38 | 33 | 15 | 14 | 15 | 23 |
| Cerebro-Spinal Fever | 20 | 23 | 4 | 23 | 12 | 22 |
| Poliomyelitis | 7 | 4 | 4 | 3 | 5 | — |
| Anthrax | — | 2 | 3 | 1 | — | 3 |

G CITY OF LIVERPOOL.

Weekly Deaths from Influenza during the years 1915-1920.

The Crosses, etc., indicate recurring intervals of thirty-three weeks.



CITY OF LIVERPOOL

Weekly Deaths from Influenza during the year 1917-1918
The Census etc., indicates numerous intervals of this disease.



INFLUENZA.

The outbreak of Influenza which caused such serious ravages during the previous year, continued during the first quarter of 1919. Three successive epidemic waves having their crests in the months of May, July, and October, occurred in 1918, the fourth wave of the series culminated in the week ending March 1st, 1919. From that date the disease rapidly declined to its normal level.

The accompanying diagram shows the weekly number of deaths attributed to Influenza during the years 1915-1920. It will be seen that during 1915 to 1917 Influenza was chiefly prevalent during the Winter months, namely, from December to April, which is the ordinary seasonal prevalence. But it will be seen that such was the severity of the disease during 1918 to 1919 that it easily transcended these normal limitations, three of the four waves occurring outside the usual season.

Influenza was again prevalent in Liverpool to a lesser extent during the first four months of 1920. This prevalence coincided with widespread outbreaks in the greater part of the Northern Hemisphere of a severity apparently equalling that of the outbreaks in the years 1918 and 1919. There is reason to believe that Influenza recurs at intervals of approximately thirty-three weeks or multiples thereof, such recurrences only assuming the form of an outbreak when they fall in the Winter season, namely, December to April; this was the case during the period 1890 to 1898. The diagram shows by crosses, etc., successive period of 33 weeks.

The weekly number of deaths from Influenza, Pneumonia, and Bronchitis are shown in the table on page 36. The deaths from Pneumonia closely correspond with those from Influenza, whilst those from Bronchitis show a lesser degree of association, and the total of deaths from all causes shows a similar fluctuation. The total number of deaths from Influenza was 1,163, from Pneumonia 1,645, and from Bronchitis 1,557. It is impossible to distinguish amongst the deaths attributed to these two Respiratory diseases those which were consequent upon Influenza, but there can be no doubt that in a considerable proportion of them it was Influenza that was the primary factor.

Of the 1,163 deaths from Influenza, 539 occurred amongst males and 624 amongst females, an excess which, as will be seen by reference to Table II, is mainly confined to the ages 20 to 40, and is therefore due to the absence of a large part of the male population on war service. A contributory factor was the great severity of the disease during pregnancy and childbirth. This lamentable feature was commented upon in the Report for 1918.

Table II further shows that as in 1918, the disease was most fatal at ages between 25 and 60. This is in striking contrast to the incidence in previous epidemics, when the extremes of life, the young and the old, were the principal sufferers.

Table I.

Table showing week by week the total number of deaths from all causes, the death-rate, and the number of deaths from Influenza, Pneumonia, and Bronchitis.

These figures do not include the deaths of Liverpool residents which occurred outside the City.

| 1919.
Week ending | | Total
Deaths. | Weekly
Death rate
per 1,000 of
Estimated
Population. | No. of Deaths from | | |
|----------------------|----------|------------------|--|--------------------|---|-------------|
| | | | | Influenza. | Pneumonia
and
Broncho
Pneumonia. | Bronchitis. |
| JANUARY | 4 | 361 | 24·0 | 63 | 77 | 38 |
| | 11 | 371 | 24·7 | 56 | 84 | 52 |
| | 18 | 348 | 23·1 | 31 | 78 | 49 |
| | 25 | 323 | 21·6 | 35 | 74 | 54 |
| FEBRUARY | 1 | 347 | 23·1 | 27 | 87 | 52 |
| | 8 | 457 | 30·5 | 55 | 102 | 59 |
| | 15 | 555 | 37·0 | 139 | 90 | 88 |
| | 22 | 638 | 42·5 | 169 | 134 | 98 |
| MARCH | 1 | 584 | 38·9 | 182 | 103 | 75 |
| | 8 | 510 | 34·0 | 140 | 94 | 95 |
| | 15 | 377 | 25·1 | 84 | 78 | 56 |
| | 22 | 292 | 19·4 | 54 | 32 | 53 |
| | 29 | 268 | 17·8 | 24 | 37 | 32 |
| | | 5,431 | 27·8 | 1,059 | 1,070 | 801 |

| 1919.
Week ending | | Total
Deaths. | Weekly
Death rate
per 1,000 of
Estimated
Population. | No. of Deaths from | | |
|---------------------------------|-------------------|------------------|--|--------------------|---|-------------|
| | | | | Influenza. | Pneumonia
and
Broncho
Pneumonia. | Bronchitis. |
| APRIL | 5 | 278 | 18.5 | 24 | 33 | 39 |
| | 12 | 256 | 17.1 | 13 | 26 | 37 |
| | 19 | 221 | 14.7 | 4 | 26 | 27 |
| | 26 | 186 | 12.4 | 2 | 24 | 25 |
| MAY | 3 | 190 | 12.7 | 4 | 22 | 21 |
| | 10 | 205 | 13.7 | 2 | 21 | 24 |
| | 17 | 176 | 11.7 | 4 | 13 | 23 |
| | 24 | 139 | 9.2 | 2 | 16 | 19 |
| | 31 | 161 | 10.7 | 2 | 10 | 20 |
| JUNE | 7 | 158 | 10.5 | 3 | 8 | 9 |
| | 14 | 163 | 10.9 | — | 16 | 20 |
| | 21 | 123 | 8.2 | 1 | 13 | 7 |
| | 28 | 119 | 7.9 | — | 7 | 12 |
| | | 2,375 | 12.1 | 61 | 235 | 283 |
| JULY | 5 | 152 | 10.1 | — | 11 | 12 |
| | 12 | 137 | 9.1 | — | 3 | 15 |
| | 19 | 116 | 7.7 | 1 | 8 | 10 |
| | 26 | 172 | 11.5 | — | 13 | 15 |
| AUGUST | 2 | 157 | 10.5 | — | 6 | 11 |
| | 9 | 143 | 9.5 | 1 | 8 | 6 |
| | 16 | 154 | 10.3 | 1 | 15 | 8 |
| | 23 | 138 | 9.2 | 1 | 7 | 9 |
| | 30 | 149 | 9.9 | — | 10 | 14 |
| SEPTEMBER | 6 | 173 | 11.5 | — | 9 | 12 |
| | 13 | 179 | 11.9 | 2 | 11 | 9 |
| | 20 | 159 | 10.6 | — | 9 | 13 |
| | 27 | 196 | 13.1 | 1 | 10 | 12 |
| | | 2,025 | 10.3 | 7 | 120 | 146 |
| OCTOBER | 4 | 184 | 12.3 | 3 | 19 | 11 |
| | 11 | 211 | 14.1 | 2 | 22 | 12 |
| | 18 | 173 | 11.5 | 1 | 16 | 19 |
| | 25 | 217 | 14.5 | 1 | 22 | 17 |
| NOVEMBER | 1 | 207 | 13.8 | 1 | 19 | 24 |
| | 8 | 189 | 12.6 | — | 21 | 27 |
| | 15 | 227 | 15.1 | — | 20 | 35 |
| | 22 | 253 | 16.9 | 1 | 36 | 31 |
| | 29 | 210 | 14.0 | 4 | 29 | 31 |
| DECEMBER | 6 | 220 | 14.7 | 4 | 31 | 19 |
| | 13 | 250 | 16.7 | 2 | 38 | 25 |
| | 20 | 242 | 16.1 | 2 | 25 | 28 |
| | 27 | 211 | 14.1 | — | 28 | 20 |
| | 31 (4 days) | 162 | 16.8 | — | 19 | 18 |
| | | 2,956 | 15.1 | 21 | 345 | 317 |
| Total for the Year
1919..... | | 12,787 | 16.3 | 1,148 | 1,770 | 1,547 |

Table II.

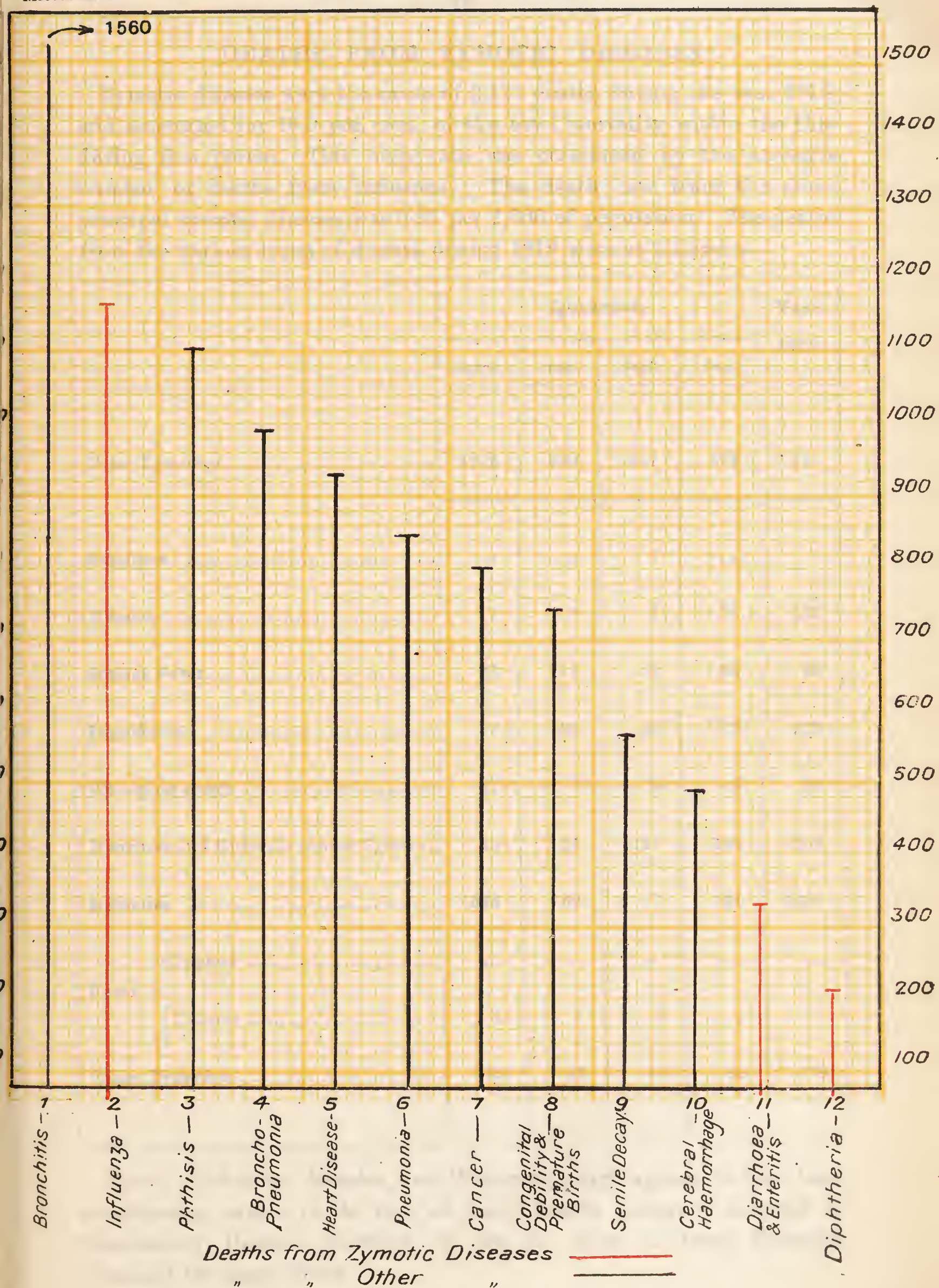
Table showing the number of deaths from **Influenza** during the year 1919, together with the age and sex distribution, corrected to include deaths of residents occurring outside the City.

| | AGES. | | | | | | | | | | | | | | | | | | | | Total. | | | | | | | | | | | | | | | | | |
|--------------------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 10 | | 15 | | 20 | | 25 | | 30 | | | | | | 40 | | 45 | | 50 | | 60 | | 65 | | 70 | | 80 | |
| | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | M. | F. | | |
| Year 1919. | 24 | 15 | 19 | 12 | 10 | 17 | 11 | 12 | 6 | 8 | 23 | 26 | 13 | 11 | 33 | 26 | 38 | 46 | 54 | 77 | 83 | 110 | 38 | 33 | 38 | 26 | 50 | 72 | 28 | 19 | 12 | 32 | 13 | 25 | 4 | 9 | 497 | 576 |
| 1st Quarter | 2 | 2 | — | — | — | 1 | — | — | 1 | — | — | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 5 | 1 | 5 | 1 | 4 | 3 | 3 | 4 | 2 | 3 | 3 | 4 | — | 2 | 2 | — | 31 | 31 |
| 2nd Quarter ... | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | 1 | — | — | — | — | 1 | 1 | — | — | — | — | — | 1 | — | — | — | — | — | — | — | 2 | 5 | |
| 3rd Quarter | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | 3 | — | — | 2 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | — | — | — | 1 | — | — | — | 9 | 12 | |
| 4th Quarter | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Total for 1919 ... | 26 | 17 | 19 | 13 | 11 | 19 | 11 | 12 | 7 | 8 | 23 | 27 | 14 | 12 | 34 | 32 | 42 | 47 | 55 | 81 | 90 | 113 | 46 | 36 | 43 | 30 | 55 | 78 | 30 | 23 | 15 | 37 | 13 | 27 | 6 | 11 | 539 | 624 |

CITY OF LIVERPOOL.

COMPARATIVE VIEW OF TWELVE OF THE PRINCIPAL CAUSES OF DEATH DURING THE YEAR 1919

M37776 Est.



CITY OF LIVERPOOL

COMPARATIVE VIEW OF TWELVE OF THE PRINCIPAL CAUSES OF DEATH DURING THE YEAR 1878



DEATHS FROM ZYMOTIC DISEASES.

Zymotic diseases were the cause of 2,121 deaths during the year 1919, and accounted for 16.0 per cent. of the total mortality within the City during this period. This high rate was occasioned by the excessive number of deaths from influenza. The death rate from the seven principal zymotic diseases was 0.96 per 1,000 of population. The deaths from the various types of disease during 1919 were as follows:—

| | QUARTERS. | | | | YEAR
1919. |
|---|---------------|-------|-------|------|---------------|
| | March. | June. | Sept. | Dec. | |
| Total Zymotics | 1272 | 230 | 247 | 372 | 2,121 |
| Smallpox | ... | ... | 1 | ... | 1 |
| Measles | 17 | 8 | 2 | 76 | 103 |
| Scarlet Fever..... | 23 | 14 | 12 | 25 | 74 |
| Diphtheria | 57 | 56 | 26 | 73 | 212 |
| Whooping-cough | 17 | 9 | 9 | 18 | 53 |
| Diarrhœa and Enteritis (under 2½ years) | 45 | 31 | 127 | 100 | 303 |
| Influenza | 1073 | 62 | 7 | 21 | 1163 |
| Fever { | Typhus | ... | ... | ... | ... |
| | | ... | ... | ... | ... |
| Fever { | Enteric | 1 | 1 | 4 | 1 |
| | | ... | ... | ... | ... |
| Other Zymotics..... | 35 | 49 | 44 | 50 | 178 |

NOTE.—Influenza, Measles, and Whooping-cough appear to have been predisposing causes in the case of many deaths primarily ascribed to Respiratory Disease inasmuch as one or other of these Zymotics preceded the fatal illness.

THE FOLLOWING TABLE SHOWING THE ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES DURING EACH OF THE LAST FIVE DECENNIAL PERIODS, IS INTERESTING AND INSTRUCTIVE. THE DECLINE IN THE MORE FORMIDABLE FORMS OF INFECTIOUS DISEASES IS VERY MARKED.

| Years. | Small Pox. | Typhus. | Enteric. | Scarlet Fever. | Measles. | Whooping Cough. | Diarrhoea. |
|---------------------|------------|---------|----------|----------------|----------|-----------------|------------|
| 1866 to 1875 | 237.4 | 652.8 | † — | 789.4 | 425.7 | 496.8 | 995.3 |
| 1876 to 1885 | 90.8 | 238.0 | 126.4 | 421.2 | 517.8 | 472.3 | 658.4 |
| 1886 to 1895 | 8.8 | 37.1 | 153.0 | 257.5 | 399.5 | 322.4 | 600.6 |
| *1896 to 1905 | 19.5 | 25.1 | 134.4 | 201.3 | 329.0 | 330.4 | 1,061.9 |
| 1906 to 1915 | 0.04 | 5.7 | 50.3 | 141.6 | 438.0 | 296.7 | 848.0 |
| Year 1919..... | 1 | — | 7 | 74 | 103 | 53 | 215 |

* Including extended City area.

† Records not available.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SEVEN OF THE PRINCIPAL ZYMOTIC DISEASES
DURING EACH OF THE LAST FIVE DECENNIAL PERIODS, DISTINGUISHING THOSE
OF PERSONS ABOVE AND BELOW FIVE YEARS OF AGE.

| YEARS. | SMALLPOX. | | TYPHUS. | | ENTERIC. | | SCARLET FEVER. | | MEASLES. | | WHOPPING COUGH. | | DIARRHŒA. | |
|----------------|-----------|----------|----------|----------|----------|----------|----------------|----------|----------|----------|-----------------|----------|-----------|----------|
| | Above 5. | Below 5. | Above 5. | Below 5. | Above 5. | Below 5. | Above 5. | Below 5. | Above 5. | Below 5. | Above 5. | Below 5. | Above 5. | Below 5. |
| 1866 to 1875 | 141.7 | 95.7 | *— | *— | * — * | — | 187.7 | 601.7 | 14.4 | 411.3 | 9.9 | 486.9 | 105.7 | 889.6 |
| 1876 to 1885 | 62.5 | 28.3 | +190.0 | + 5.1 | +110.3 | + 12.1 | 137.0 | 284.2 | 35.4 | 482.4 | 18.6 | 453.7 | 61.9 | 596.5 |
| 1886 to 1895 | 6.2 | 2.6 | 36.2 | .9 | 142.0 | 11.0 | 87.6 | 169.9 | 28.3 | 371.2 | 15.1 | 307.3 | 60.2 | 540.4 |
| **1896 to 1905 | 14.5 | 5.0 | 24.2 | .9 | 128.4 | 6.0 | 61.7 | 139.6 | 17.1 | 311.9 | 11.9 | 318.5 | 53.6 | 1,008.3 |
| 1906 to 1915 | .04 | — | 5.5 | .2 | 49.0 | 1.3 | 50.9 | 90.7 | 23.9 | 414.1 | 9.2 | 287.5 | 30.8 | 817.2 |
| 1919 | 1 | — | — | — | 7 | — | 36 | 38 | 13 | 90 | 3 | 50 | 17 | 198 |

* During these years the ages at death from Typhus and Enteric were not differentiated.

† During the six years, 1880-1885.

** Including extended City area.

The following table shows the number of deaths, the annual average death-rate per 100,000 of the population from the undermentioned forms of disease during the last six decades, 1856 to 1915, and during 1919:—

| DISEASE. | Average Population | 1856
to 1865. | 1866
to 1875. | 1876
to 1885. | 1886
to 1895. | 1896†
to 1905. | 1906‡
to 1915 | 1919. |
|-------------------|--|------------------|------------------|------------------|------------------|-------------------|------------------|---------------|
| Scarlet
Fever | { Total Deaths ...
Rate per 100,000
per annum. | 5,994
135.0 | 7,894
159.9 | 4,212
78.1 | 2,575
47.9 | 2,013
29.1 | 1,416
19.0 | 7
9. |
| Typhus
Fever | { Total Deaths ...
Rate per 100,000
per annum. | 7,482
168.5 | 6,528
132.2 | 2,380
44.1 | 371
6.9 | 251
3.6 | 57
0.8 | 0. |
| Enteric
Fever | { Total Deaths ...
Rate per 100,000
per annum. | *
— | *
— | 1,264
21.5 | 1,530
28.4 | 1,344
19.3 | 503
6.7 | 0. |
| Measles | { Total Deaths ...
Rate per 100,000
per annum. | 3,215
72.4 | 4,257
86.2 | 5,178
96.1 | 3,995
74.3 | 3,290
47.5 | 4,380
58.6 | 10
13. |
| Whooping
Cough | { Total Deaths ...
Rate per 100,000
per annum. | 4,779
107.6 | 4,968
100.6 | 4,723
87.6 | 3,224
60.0 | 3,304
47.7 | 2,967
39.7 | 6 |
| Smallpox | { Total Deaths ...
Rate per 100,000
per annum. | 1,673
37.6 | 2,374
48.1 | 908
16.8 | 88
1.6 | 195
2.8 | 3
0.4 | 1
0.1 |
| Phthisis | { Total Deaths ...
Rate per 100,000
per annum. | 15,572
350.7 | 16,476
333.9 | 13,754
255.3 | 11,436
212.9 | 12,632
182.7 | 12,010
160.7 | 1,001
13.1 |

† City Boundaries extended in 1895, 1902, 1905.

* Records not available.

‡ „ „ „ 1913.

CANCER.

The following table indicates the number of deaths from Cancer during the year 1919, and the part of the body affected:—

| DISEASE. | Males. | Females. | Total. |
|----------------------------------|--------|----------|--------|
| Cancer of Buccal Cavity | 63 | 6 | 69 |
| „ Stomach and Bowels..... | 131 | 121 | 252 |
| „ Intestines | 77 | 81 | 158 |
| „ Breast | — | 68 | 68 |
| „ Female Generative Organs | — | 107 | 107 |
| „ Skin | 5 | 2 | 7 |
| „ Parts not specified | 76 | 46 | 122 |
| Total | 352 | 431 | 783 |

DEATHS FROM EXCESSIVE DRINKING, &c.

The welcome decrease previously noted in the number of deaths due to or accelerated by excessive drinking of intoxicating liquors has been maintained. The beneficial results of the restricted manufacture and sale of intoxicating drink are not to be measured by a reduced mortality only, but there is also a great decrease in the number of cases of delirium tremens coming under treatment in public institutions.

The decrease in the mortality from excessive drinking which is especially noticeable in regard to females, has been followed by a decrease in the numbers of infants dying from suffocation caused through overlying by their parents. The following table shows the deaths due to excessive drinking during the past six years :—

| YEAR. | MALES. | FEMALES. | TOTAL. |
|-------|--------|----------|--------|
| 1914 | 73 | 52 | 125 |
| 1915 | 48 | 38 | 86 |
| 1916 | 35 | 9 | 44 |
| 1917 | 33 | 15 | 48 |
| 1918 | 14 | 2 | 16 |
| 1919 | 19 | — | 19 |

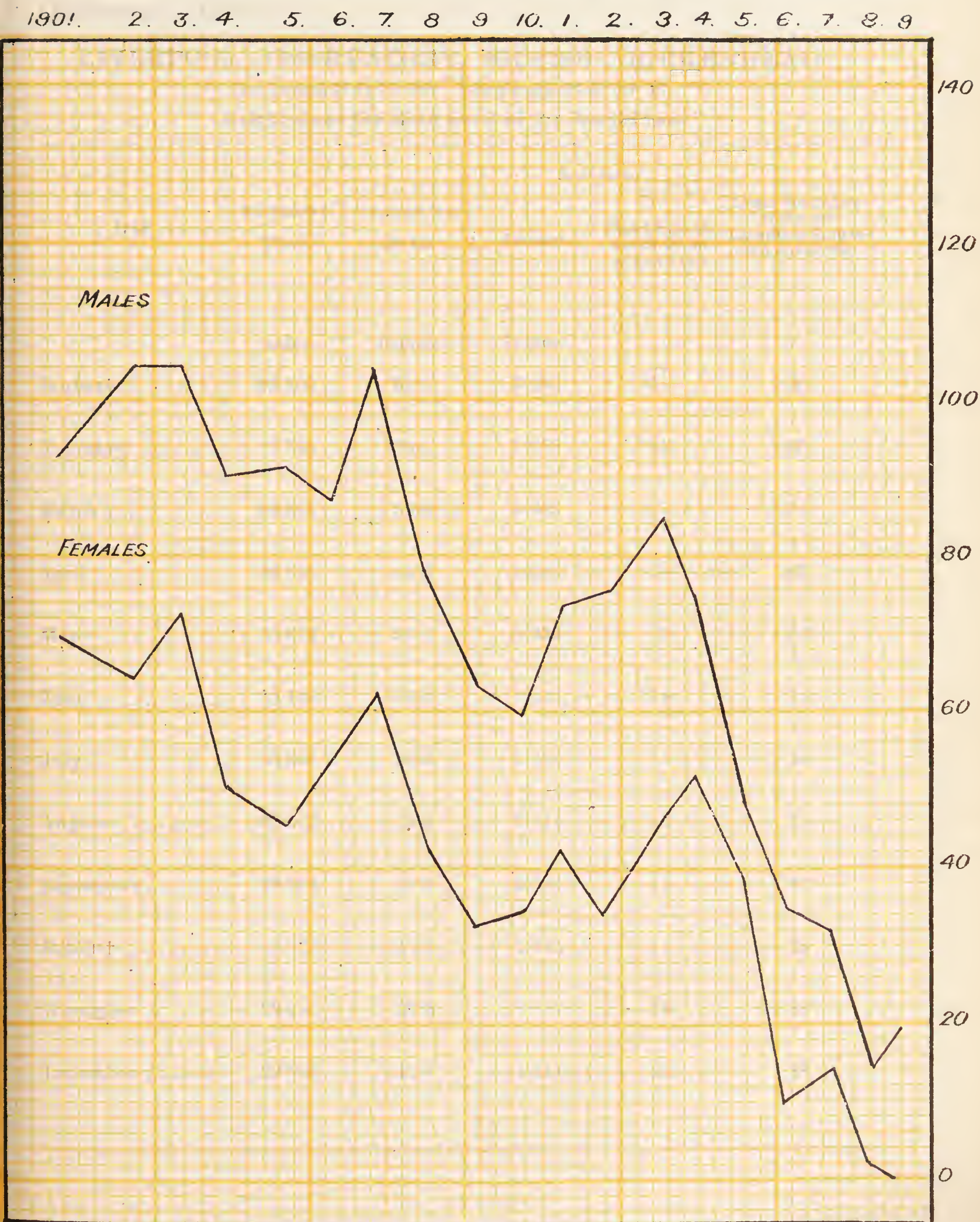
The deaths of infants under one year of age from suffocation have been as follows :—

| YEAR. | DEATHS. |
|-------------|---------|
| 1914 | 76 |
| 1915 | 50 |
| 1916 | 36 |
| 1917 | 23 |
| 1918 | 26 |
| 1919 | 25 |

CITY OF LIVERPOOL.

Deaths from excessive drinking during the 19 years
1901 to 1919.

Marked reduction in number of deaths coincides with period
of restricted sale of Alcoholic Liquors.



CITY OF LIVERPOOL

Deaths from excessive drinking during the 17 years
from 1901 to 1917

Marked reduction in number of deaths coincides with period
of restricted sale of alcoholic liquors



METEOROLOGY.

Mr. W. E. Plummer, M.A., F.R.A.S., Astronomer to the Mersey Docks and Harbour Board, has kindly furnished the following tables relating to Meteorological observations made by him at the Liverpool Observatory, Bidston:—

LIVERPOOL OBSERVATORY, BIDSTON, BIRKENHEAD.

Latitude $53^{\circ} 24' 5''$ N. Longitude $3^{\circ} 4' 20''$ W.

Height above the Mean Level of the Sea 202 feet.

| 1912. | Barometer.
Mean. | Temperature.
Mean. | RAINFALL. | | Mean Humidity
of the air
(Complete Saturation equal 100). |
|-----------------|---------------------|-----------------------|-----------|--|---|
| | | | Amount. | No. of days on
which .01 in.
or more fell. | |
| | Inches. | Degrees. | Inches. | | |
| January | 29.700 | 38.6 | 2.480 | 21 | 86 |
| February | 29.788 | 35.6 | 1.056 | 11 | 86 |
| March | 29.816 | 38.2 | 4.912 | 17 | 84 |
| April | 29.965 | 44.9 | 1.085 | 16 | 81 |
| May | 30.042 | 56.6 | 0.955 | 9 | 68 |
| June | 30.105 | 56.4 | 1.402 | 14 | 74 |
| July | 30.054 | 56.9 | 1.756 | 13 | 78 |
| August | 29.975 | 59.1 | 3.744 | 16 | 75 |
| September | 29.974 | 55.5 | 2.897 | 14 | 77 |
| October | 30.175 | 47.3 | 2.675 | 11 | 78 |
| November | 29.783 | 39.3 | 1.317 | 14 | 86 |
| December | 29.709 | 42.7 | 4.841 | 24 | 86 |

DIFFERENCE FROM THE AVERAGE QUANTITIES OBSERVED DURING THE
LAST 50 YEARS.

| 1919. | BAROMETER. | | TEMPERATURE. | | RAINFALL. | |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Above
Average. | Below
Average. | Above
Average. | Below
Average. | Above
Average. | Below
Average. |
| | Inches. | Inches. | Degrees. | Degrees. | Inches. | Inches. |
| January | ... | 0·246 | ... | 0·7 | 0·365 | ... |
| February | ... | 0·183 | ... | 5·6 | ... | 0·642 |
| March | ... | 0·063 | ... | 4·1 | 30·41 | ... |
| April | 0·056 | ... | ... | 2·4 | ... | 0·540 |
| May | 0·073 | ... | 4·8 | ... | ... | 0·976 |
| June | 0·117 | ... | ... | 1·0 | ... | 0·663 |
| July | 0·104 | ... | ... | 3·9 | ... | 0·885 |
| August | 0·061 | ... | ... | 1·4 | 0·706 | ... |
| September | 0·008 | ... | ... | 0·7 | 0·126 | ... |
| October..... | 0·303 | ... | ... | 2·3 | ... | 0·736 |
| November | ... | 0·110 | ... | 3·9 | ... | 1·201 |
| December..... | ... | 0·133 | 2·8 | ... | 2·087 | ... |

OBSERVATIONS OF VELOCITY OF WIND.

| 1919. | Average Hourly
Velocity
for Month. | Maximum
Hourly
Velocity. | Date. | Minimum
Hourly
Velocity. | Date. |
|---------------|--|--------------------------------|-------------|--------------------------------|---------------------------|
| | Miles. | Miles. | | Miles. | |
| January | 15·7 | 67 | Jan. 2 | 1 | January 4, 5, 18, 21, 29. |
| February.... | 13·3 | 32 | Feb. 19, 22 | 1 | February 3, 25, 26. |
| March..... | 17·3 | 57 | Mar. 27 | 0 | March 4, 5. |
| April | 18·2 | 50 | April 16 | 0 | April 19. |
| May | 12·0 | 35 | May 1 | 0 | May 3, 23, 24. |
| June | 18·4 | 53 | June 23 | 1 | June 10, 14, 15, 17, 18. |
| July | 13·9 | 37 | July 22 | 0 | July 4, 17. |
| August | 16·0 | 60 | Aug. 27 | 0 | August 8, 9, 10. |
| September.. | 14·5 | 48 | Sept. 26 | 0 | September 17. |
| October..... | 14·1 | 38 | Oct. 12, 26 | 0 | October 5, 6, 9. |
| November... | 15·5 | 51 | Nov. 23, 24 | 0 | November 13, 14. |
| December... | 22·4 | 66 | Dec. 19 | 1 | December 16, 29. |

CHILD WELFARE.

INFANT MORTALITY AND ITS PREVENTION.

The preventive measures adopted for further protecting child life have been fully dealt with in Special Reports made to the Health Committee by the Medical Officer of Health.

The relation which the deaths of infants under one year of age has borne to every thousand births in the various districts of the City during the year 1919 and during the previous five years, 1914-1918, is shown in the following table:—

| DISTRICTS. | Number
of Births.
1919. | Number of
Deaths
under 1 year
of age.
1919. | Deaths
under 1 year
per 1000
Births.
1919. | Average
number of
Deaths under
1 year per
1000 Births
1914-1918. |
|-------------------------|-------------------------------|---|--|---|
| Scotland | 1,546 | 211 | 136 | 163 |
| Exchange | 922 | 117 | 127 | 194 |
| Abercromby | 1,011 | 125 | 124 | 136 |
| Everton | 3,240 | 354 | 109 | 142 |
| Kirkdale | 1,794 | 235 | 131 | 142 |
| West Derby (West) | 2,076 | 229 | 110 | 120 |
| Toxteth | 2,781 | 325 | 117 | 121 |
| Walton | 1,632 | 132 | 81 | 96 |
| West Derby (East) | 1,479 | 119 | 80 | 94 |
| Wavertree | 847 | 82 | 97 | 83 |
| Toxteth—(East) | 561 | 47 | 85 | 72 |
| Garston | 608 | 62 | 102 | 109 |
| Fazakerley | 81 | 7 | 87 | 107 |
| Woolton | 116 | 10 | 86 | 63 |
| City | 18,694 | 2,055 | 110 | 126 |

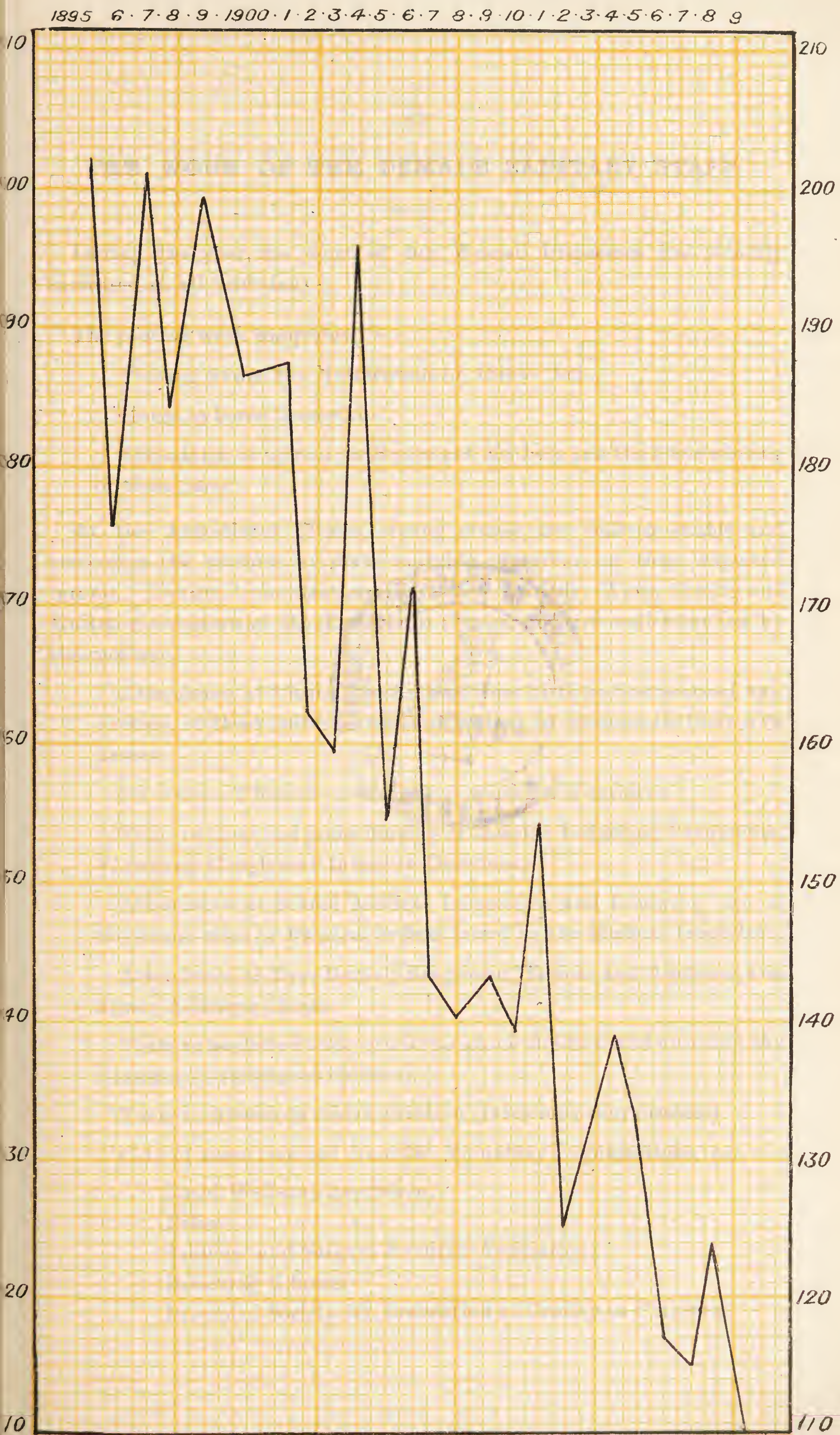
Further details in reference to action taken in connection with Maternal and Child Mortality has been set out in a special Memorandum which has been distributed to Members of the City Council.

The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last twenty years:—

| Year. | | | | No. of Deaths
below
One Year of Age. | Rate per
1,000 Births. |
|-------|-----|-----|-----|--|---------------------------|
| 1900 | ... | ... | ... | 4,203 | 186 |
| 1901 | ... | ... | ... | 4,089 | 187 |
| 1902 | ... | ... | ... | 3,899 | 162 |
| 1903 | ... | ... | ... | 3,775 | 159 |
| 1904 | ... | ... | ... | 4,735 | 196 |
| 1905 | .. | ... | ... | 3,710 | 154 |
| 1906 | ... | ... | ... | 4,137 | 171 |
| 1907 | ... | ... | ... | 3,383 | 143 |
| 1908 | ... | ... | ... | 3,355 | 140 |
| 1909 | ... | ... | ... | 3,377 | 143 |
| 1910 | ... | ... | ... | 3,216 | 139 |
| 1911 | ... | ... | ... | 3,466 | 154 |
| 1912 | ... | ... | ... | 2,778 | 125 |
| 1913 | ... | ... | ... | 2,987 | 132 |
| 1914 | ... | ... | ... | 3,219 | 139 |
| 1915 | ... | ... | ... | 2,866 | 133 |
| 1916 | ... | ... | ... | 2,421 | 117 |
| 1917 | ... | ... | ... | 2,071 | 115 |
| 1918 | ... | ... | ... | 2,137 | 124 |
| 1919 | ... | ... | ... | 2,055 | 110 |

CITY OF LIVERPOOL.

Infant Mortality per 1000 Births 1895 - 1919.



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



THE WORK OF THE FEMALE SANITARY STAFF.

During the year, the work of the Women Inspectors has steadily increased in all directions.

The routine work comprises :—

Visiting under the Notification of Births Act.

House to house inspection.

Attendance at Clinics for Expectant Mothers and the home visiting of these cases.

At the Ante-Natal Clinics, sewing classes are held to enable and encourage the mothers to make suitable provision for their expected infants. Lecture demonstrations in Cookery, Laundry Work, Sewing and Knitting are given at the Post-Natal Clinics, and are well attended by the mothers.

Attendance at Clinics for children from birth to five years of age, visiting of these children, and instruction to mothers in their own homes.

Re-visits to Phthisis cases amongst women and children.

Visits to cases and home nursing of Measles, Influenza, Pneumonia, Whooping Cough and Infantile Diarrhœa.

Attendance at School Medical Inspections and following up in the homes cases of Physical defects found by the Medical Inspectors.

Attendance at Eye, Dental, Ringworm, Tonsils and Adenoids and Minor Ailments Clinics.

Visits to neglected and verminous school children and ensuring the cleansing of verminous children.

Visits to infectious school children (infectious skin diseases).

Care of cases referred from the Voluntary Organizations, *e.g.* :—

Child Welfare Association.

Police

Soldiers' and Sailors' Families Association.

Relieving Officers.

Liverpool Society for Prevention of Cruelty to Children.

In addition to the duties enumerated above, the Health Visitors have given valuable assistance to the Housing Department in investigating the conditions of those applying for dwellings, so that the most pressing cases should receive priority.

Good work has been done in co-operation with the Tuberculosis Department, by specially qualified Visitors, for discharged Soldiers and Sailors suffering from Tuberculosis, especially with reference to their housing, surroundings, and treatment.

The following figures give the attendances, condition, and feeding of children on admission to those Post-Natal Clinics, which are under the control of the Health Committee:—

INFANT CLINICS.

| | |
|----------------------------|-------|
| Admissions for year | 5,893 |
|----------------------------|-------|

Age on admission—

| | |
|--------------------------------|-------|
| Under 1 month old | 1,411 |
| From 1 to 3 months old | 2,425 |
| From 3 to 6 months old | 789 |
| From 6 to 12 months old | 502 |
| Over 12 months old | 766 |

Condition of Health on Admission—

| | |
|-----------------------------|-------|
| Good | 4,090 |
| Fair (under average) | 1,094 |
| Delicate | 709 |

Method of Feeding on Admission—

| | |
|----------------------------------|-------------|
| Breast fed entirely | 3,312 |
| Partly breast fed | 609 |
| Artificially fed entirely | 1,972—2,581 |

Artificial Method adopted—

| | |
|------------------------------------|-----------|
| Cow's milk | 289 |
| Prepared or sterilized milk | 196 |
| Dried milk | 937 |
| Condensed milk | 312 |
| Patent foods | 158 |
| Ordinary foods | 689—2,581 |

*Treatment given on admission—

| | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|--------|
| Advisory | ... | ... | ... | ... | ... | ... | ... | 1,871 |
| Minor Medical | ... | ... | ... | ... | ... | ... | ... | 3,362 |
| Referred to Medical Practitioners, Hospitals etc. | | | | | | | | 660 |
| Total attendances for year | ... | ... | ... | ... | ... | | | 56,325 |
| Attendances under 1 year | ... | ... | ... | ... | ... | | | 43,024 |
| Attendances from 1 to 3 years | ... | ... | ... | ... | ... | | | 11,447 |
| Attendances from 3 to 5 years | ... | ... | ... | ... | ... | | | 1,854 |
| Attendances of mothers at classes | ... | ... | ... | ... | ... | | | 5,688 |

There are additional Clinics organised by Voluntary Agencies, which carry on very valuable work on the same lines.

DAY NURSERIES.

- 1.—264, Westminster Road.
- 2.—18, Gt. George Square.
- 3.—407, Edge Lane.
- 4.—19, Beaumont Street.
- 5.—141 and 143, Smithdown Lane.
- 6.—Banks Road, Garston.
- 7.—87, South Hill Road.
- 8.—63, Everton Road.
- 9.—61, Shaw Street.

Seven of these Nurseries are under the control of the Corporation. Two of this number, which were managed by Voluntary Committees, have now been transferred to the Corporation.

Children from the age of 3 weeks to 5 years are admitted to the Day Nurseries between the hours of 7 a.m. and 7 p.m. At numbers 3, 4, 5 and 6, children may be boarded for short periods, to tide over special difficulties in the homes, such as illness of the mother, etc.

* The work of the Clinics is mainly preventive, only minor ailments being treated. Cases found to be suffering from any condition requiring further treatment are referred either to Private Practitioners, Hospitals or Dispensaries. In many cases the early diagnosis of ailments, with the necessary treatment, has given good results which could not otherwise have been obtained.

These Institutions are much appreciated by the working classes, and are a special boon to the mothers in times of sickness, or who, by reason of widowhood or incapacity of their husbands, are compelled to leave their homes in order to make the necessary provision for themselves and their families.

In Liverpool, as elsewhere, the loss of infant life has been slowly but steadily diminishing for many years, and there is not the least reason to doubt that this decline will be more marked as ameliorative measures become further developed. Questions of size of families, poverty and social conditions, carelessness, lack of knowledge, domestic cleanliness, individual care of infants, temperance, all have their influence.

There are now 14 Pre-maternity Centres and "Rest Homes," and also 21 Infant Clinics and Day Nurseries established in suitable centres under the direction of the Infant Welfare Sub-Committee.

In following the guiding principle of the Ministry of Health, the Infant Welfare Committee have amplified the principle of co-ordination with the various voluntary agencies.

Day Nurseries have long been recognised as a necessity in cases where the mother is ill or is obliged to go out to work and the infant loses the maternal supervision and care. Their sphere of usefulness has been extended by associating them with the instruction of the mother in simple domestic duties and in the care of her infant. Medical supervision of the infants is also provided.

PRE-MATERNITY CENTRES.—To these centres expectant mothers come for advice and attention for minor ailments, a doctor, experienced in maternity work, and a qualified midwife being in attendance.

"REST HOMES."—Although provision has been made in several Poor Law Hospitals for pregnant women, those of a better class are reluctant to enter these institutions, and the "rest home" is a step in the right direction. The accommodation of these homes is such that patients receive prompt and careful attention in all the varying stages of the pre-natal and post-natal state, and in the home at "Quarry Bank" provision is made for patients to receive attention during their confinement.

Full information as to hours of attendance, etc., at the Welfare Centres is published in handy form for distribution amongst those interested.

NOTIFICATION OF BIRTHS ACT, 1907.

| | | | |
|---|-----|-----|--------|
| Number of Births notified during the year | ... | ... | 18,570 |
| Number of Births visited during the year | ... | ... | 17,988 |
| Percentage visited during the year | ... | ... | 95 |

INFECTIOUS DISEASE IN SCHOOLS.

Owing to the continued prevalence of Influenza a number of schools were closed between the 17th and 25th February, on which date the whole of the schools in the city were closed until 24th March. Towards the end of the year measles began to make its appearance, necessitating the closing of a few schools until after the Christmas holidays.

PUBLIC ELEMENTARY SCHOOLS.

| | | | <u>1918.</u> | | <u>1919</u> |
|---------------------------------------|-----|-----|--------------|-----|-------------|
| Number of Visits to Schools | ... | ... | 1,908 | ... | 2,558 |
| „ found incorrect | ... | ... | 34 | ... | 55 |
| „ of Water-closets and Latrines found | | | | | |
| dirty or defective | ... | ... | 15 | ... | 18 |
| „ of Notices issued for defects | ... | ... | 14 | ... | 17 |

NOTICES TO SCHOOL TEACHERS

The arrangements have been continued with the Education Committee that notice shall be sent to the Education Department and postcards to the Head Teachers of the various schools informing them when children from infected houses attend their schools; 7,358 cards were sent last year, as against 8,471 in the preceding year.

INFANT WELFARE CENTRES.

The reduction in the infant mortality rate for the year is the lowest yet recorded, and the following statistics concerning the work carried on during the year are interesting as shewing the extent of the operations undertaken.

The total number of persons supplied with milk during the year were 15,466, viz., 5,636 on the books at the beginning of the year, and 9,830 admitted during the year, representing 5,472 mothers and 9,994 infants. Of the mothers there were 768 Ante-Natal and 4,704 Post-Natal cases; of the infants, 4,350 were under and 5,644 over twelve months of age. The total quantity of milk supplied during the year was 254,680 gallons, and the bottles prepared reached a total of 1,542,061. The quantity of dried milk used was 24 tons.

It will, therefore, be seen that the number of infants fed on dried milk shows an increase.

The Infant Welfare Dépôt at Harthill House, Calderstones, was opened in July, 1917, to supply prepared milk for infants to the undermentioned Centres, and since the commencement of the scheme the numbers which have been supplied from the Centres are as follows:—

| | | | | | | Supplied
during
1919. |
|-------------------------------------|-----|-----|-----|-----|-----|-----------------------------|
| Netherfield Road Centre | ... | ... | ... | ... | ... | 1,805 |
| Earle Road do. | ... | ... | ... | ... | ... | 1,346 |
| Park Road do. | ... | ... | ... | ... | ... | 1,797 |
| St. Anne Street do. | ... | ... | ... | ... | ... | 1,098 |
| Boaler Street do. | ... | ... | ... | ... | ... | 1,046 |
| Rathbone Road do. | ... | ... | ... | ... | ... | 388 |
| Mill Street do. | ... | ... | ... | ... | ... | 643 |
| Total supplied from Centres | | | | | | 8,123 |
| ,, supplied from Dairies and Agents | | | | | | 1,707 |
| | | | | | | 9,830 |

During the year the total number of customers supplied is shown as follows, viz. :—

| | |
|--|--------------------|
| Number remaining on the books from previous year ... | 5,636 |
| Number admitted during the year | 9,830 |
| Total | <hr/> 15,466 <hr/> |
| Number of discharges during the year... .. | 9,147 |
| Number remaining on books at end of year | 6,319 |

It will be seen that the above figures show an increase in the number of customers remaining on the books of 683.

The number of attendances of mothers and infants at the Centres during the year for weighing and advice, etc., was 29,439.

The number of visits paid during the year to children in their own homes by the Inspectors attached to the Centres in order to see that the children were being properly fed and cared for was 7,156.

DRIED MILK.

The infants fed on dried milk during the year were 1,556, of whom 789 were admitted during the year.

The number remaining on the books at the end of the year was 588.

MIDWIVES ACTS, 1902 AND 1918.

The Midwives Act, 1918, as an extension of the principal Act, came into force on 1st January, 1919, and, under it, the Local Supervising Authority (Health Committee) is required to pay the fee of all medical practitioners called in cases of emergency. This section is the confirmation of the step taken by the City Council in 1904, when a resolution was passed authorising the Health Committee to pay the sum of one guinea in cases of emergency assistance. This has been found to be of the greatest benefit in dealing with cases of difficult midwifery.

During the year 1919, two hundred and three midwives gave the required notice, under Section 10, of their intention to practise midwifery.

A total of 14,713 births was attended by these midwives, and 1,988 by the midwives on the staff of the Ladies' Charity, making altogether 89·3 per cent of the total number of births registered in the City. So far as can be ascertained there were no births attended during the year by uncertified women.

STATEMENT OF NOTIFICATIONS OF BIRTHS RECEIVED DURING.
THE YEARS :—

| | 1918. | | 1919. | |
|---------------------------------|---------|---|---------|---|
| Notifications Received from | Births. | Per centage of Births Registered in the City. | Births. | Per centage of Births Registered in the City. |
| Certified Midwives | 12,662 | 73·90 | 14,713 | 78·70 |
| Medical Attendants..... | 1,002 | 5·84 | 1,380 | 7·38 |
| Poor Law Institutions | 402 | 2·34 | 550 | 3·00 |
| Ladies' } Maternity Hospital... | 526 | 3·07 | 587 | 3·14 |
| Charity } District Homes | 981 | 5·87 | 1,214 | 6·49 |
| Royal Infirmary | 16 | 0·09 | 29 | 0·15 |
| "Cradlehurst," Edge Lane ... | 46 | 0·26 | 75 | 0·39 |
| Royal Southern Hospital | — | — | 1 | — |
| Samaritan Hospital..... | — | — | 2 | — |
| Parents | 27 | 0·15 | 19 | 0·10 |
| | 15,662 | 91·41 | 18,570 | 99·33 |

| | | | | |
|---|---|------|---|--------|
| Total Number of Births registered in the City | } | 1918 | — | 17,133 |
| | | 1919 | — | 18,694 |

STILL BIRTHS.

The number of still births notified by midwives was 377, which is at the rate of 2·56 per cent. of the births attended. The prevalence of still births in the practice of midwives varies very much, the highest rate being 7·0 per cent., the lowest being 0·88 per cent., in the practice of midwives attending over 50 confinements per year. In no case does a

midwife give a certificate of still-birth unless she is present at the time of the birth; she is instructed that if the birth should take place before her arrival she must report the matter to the Coroner, who, upon inquiry, grants a certificate for the burial of the body. The Medical Officer of Health has arranged for the bodies of still-born infants to be received at the Mortuary, Ford Street, where, if the parent is unable to pay the fee the body is taken charge of and arrangements made for its burial.

The following figures give the months of pregnancy during which the still births took place, viz. :—

| | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------------|
| Sixth month | ... | ... | ... | ... | ... | ... | 22 |
| Seventh month | ... | ... | ... | ... | ... | ... | 109 |
| Eighth month | ... | ... | ... | ... | ... | ... | 93 |
| Ninth month | ... | ... | ... | ... | ... | ... | 153 |
| Total | ... | ... | ... | ... | ... | ... | <u>377</u> |

MEDICAL ASSISTANCE.

Under the Rules issued by the Central Midwives' Board, a midwife must advise that medical assistance shall be called in where there is any abnormal circumstances connected with the confinement.

The following table gives the details of the complications for which medical assistance was required during the past two years:—

| MOTHER : | 1918. | 1919. |
|---------------------------------|------------|------------|
| Abnormal Presentation : | | |
| Brow or Face Presentation | 12 | 19 |
| Occipito-posterior Presentation | 25 | 30 |
| Transverse Presentation | 29 | 30 |
| Breech Presentation | 22 | 41 |
| Foot Presentation | 9 | 4 |
| Cord Presentation | 22 | 6 |
| Placenta Prævia | 6 | 10 |
| Deformed Pelvis | 27 | 54 |
| Ante-partum Hæmorrhage | 84 | 93 |
| Post-partum Hæmorrhage | 38 | 54 |
| Retained Placenta or Membranes | 70 | 95 |
| Carried forward | <u>344</u> | <u>436</u> |

| | | | | | | | | | |
|--|-----|-----|-----|-----|-----|---------------------|--------------|--------------|-----|
| | | | | | | Brought forward ... | 344 | ... | 436 |
| Ruptured Perinæum | ... | ... | ... | ... | ... | 172 | ... | 227 | |
| Multiple Births | ... | ... | ... | ... | ... | 14 | .. | 18 | |
| Abortion or Premature Birth | ... | ... | ... | ... | ... | 97 | ... | 81 | |
| Pyrexia | ... | ... | ... | ... | ... | 100 | ... | 112 | |
| Eclampsia | ... | ... | ... | ... | ... | 22 | ... | 10 | |
| Obstructed Labour, Uterine Inertia, or requiring Instrumental Assistance | ... | ... | ... | ... | ... | 300 | ... | 462 | |
| Influenza | ... | ... | ... | ... | ... | 29 | ... | 1 | |
| Various | ... | ... | ... | ... | ... | 154 | ... | 169 | |
| CHILD: | | | | | | | | | |
| Injury at Birth | ... | ... | ... | ... | ... | 1 | .. | — | |
| Malformation | ... | ... | ... | ... | ... | 30 | ... | 62 | |
| Feebleness and Prematurity | ... | ... | ... | ... | ... | 125 | ... | 14 | |
| Skin Eruption | ... | ... | ... | ... | ... | 26 | ... | 23 | |
| Ophthalmia | ... | ... | ... | ... | ... | 271 | | 247 | |
| Other conditions in child | ... | ... | ... | ... | ... | 39 | ... | 63 | |
| | | | | | | | <u>1,724</u> | <u>2,025</u> | |

LYING-IN HOMES.

The registration of lying-in homes is very necessary so that supervision may be carried out to ensure that the homes are properly conducted.

At the present time there are forty-six lying-in homes in Liverpool, and of these thirty-one are superintended by qualified Midwives, the remaining fifteen being homes kept by Nurses who are not Midwives, and who call in medical aid.

On the receipt of a notification of a birth in one of these homes the Inspector of Midwives visits the house for the purpose of ascertaining the home address of the patient, and what provision is being made for the infant to receive suitable care.

| | | | | | | |
|---|-----|-----|-----|-----|-----|------------|
| Number of Lying-in Homes | ... | ... | ... | ... | ... | 46 |
| Number of Homes Superintended by Midwives | ... | ... | ... | ... | ... | 31 |
| Number of Births during 1919:— | | | | | | |
| Legitimate Children | ... | ... | ... | ... | ... | 286 |
| Illegitimate Children | .. | ... | ... | ... | ... | 125 |
| | | | | | | <u>411</u> |

(Of the above number 11 were still-born.)

PUERPERAL FEVER.

The number of cases of Puerperal Fever notified to the Medical Officer of Health during the year was 55, of which 20 proved fatal. This gives a death-rate of 1·07 per 1,000 births in the City.

Thirty-seven cases were removed to hospital, viz.:—3 to Brownlow Hill Infirmary; 3 to Mill Road Infirmary; 27 to Walton Institution; 3 to Toxteth Infirmary, and 1 to the Royal Infirmary.

After the usual enquiries were made, 30 cases (of which 9 died) were found to have occurred in the practice of midwives. Two midwives had three cases each.

The following table shows the annual rate of mortality per 1,000 of the total births since the year 1913:—

| Year. | Total number of births in the City. | Total number of :— | | Death rate per 1,000 births. | Removed to City Hospital, Fazakerley. |
|-------|-------------------------------------|--------------------|---------|------------------------------|---------------------------------------|
| | | Cases. | Deaths. | | |
| 1913 | 22,555 | 55 | 18 | 0·80 | 25 |
| 1914 | 23,065 | 56 | 31 | 1·34 | 26 |
| 1915 | 21,586 | 54 | 27 | 1·25 | — |
| 1916 | 20,679 | 52 | 22 | 1·06 | 1 |
| 1917 | 17,906 | 33 | 16 | 0·89 | — |
| 1918 | 17,133 | 28 | 16 | 0·93 | — |
| 1919 | 18,694 | 55 | 20 | 1·07 | — |

ROUTINE VISITS TO MIDWIVES.

Rule 25 laid down by the Central Midwives' Board states as follows:—"The Local Supervising Authority shall make arrangements "to secure a proper inspection of the Register of cases, bag of "appliances, etc., of every midwife practising in the district of such "authority, and when thought necessary, an inspection of her place of "residence, and an investigation of her mode of practice."

The Deputy Medical Officer of Health takes a special interest in the work, assisted by three fully trained Female Inspectors, all of whom hold the certificate of the Central Midwives' Board. During the year, 3,643 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

The midwives of the City are, with very rare exceptions, fully trained women. They have for many years been encouraged by the Medical Officer of Health to form themselves into an Association, which, year by year, has become numerically stronger, and that Association embraces nearly all, if not quite all, of the midwives in the City. The great advantage of this is, that the midwives as a body are now closely linked up with sanitary administration, and they themselves, as well as their patients, derive considerable advantage from this. For example, they arrange for themselves special courses of instruction, at which they receive much help (from lectures and in other ways) from the gynaecologists of the City.

The adoption of the Notification of Births Act, which renders it obligatory on the part of the medical attendant or midwife, as well as the father of the child, to notify the occurrence of a birth, has been a very valuable aid to the working of the Midwives Act.

OPHTHALMIA NEONATORUM.

INFLAMMATION OF THE EYES OF THE NEWLY-BORN.

The following figures give some details as to the sources of information and character of the cases dealt with during the year:—

The total number of cases brought to the notice of the department, 719.

| | | | | | | |
|-----|------------------------------|-----|-----|-----|-----|-----|
| (1) | Reported by Midwives | ... | ... | ... | ... | 529 |
| (2) | do. Doctors and Eye Hospital | ... | ... | ... | ... | 93 |
| (3) | do. Female Inspectors | ... | ... | ... | ... | 93 |
| (4) | do. in other ways | ... | ... | ... | ... | 4 |

The above cases consisted of:—

| | | | | | | | |
|-----|---------------------------|-----|-----|-----|-----|-----|-----|
| (1) | Mild cases | ... | ... | ... | ... | ... | 471 |
| (2) | Severe cases | ... | ... | ... | ... | ... | 178 |
| (3) | Under private treatment | ... | .. | ... | ... | ... | 23 |
| (4) | Not Ophthalmia Neonatorum | ... | ... | ... | ... | ... | 47 |

The majority of the cases that went to hospital, either as out-patients or who were admitted as in-patients, were treated at St. Paul's Eye Hospital, and the remainder at the Eye and Ear Infirmary, Myrtle Street. Midwives, realizing the need of prompt attention, in many cases sent the infants to the hospital, and in some instances have taken the infant themselves.

The Authorities of the St. Paul's Eye Hospital reserve 9 beds and 9 cots for the treatment of this disease, so that infants who require constant supervision and treatment can be admitted with their mothers, and are therefore not deprived of the necessary material nourishment and care.

The satisfactory results of this work are shown by the following figures:—

| | | | | |
|--|-----|-----|-----|-----|
| Number of cases treated in their homes | ... | ... | ... | 386 |
| Do. do. sent to hospital as out-patients | ... | ... | ... | 188 |
| Do. do. admitted to hospital | ... | ... | ... | 98 |

As indicating the persistence of material infection or re-infection, it is interesting to note that in 100 cases previous children in the family had been similarly affected.

| | | | | | |
|--|-----|-----|-----|-----|-----|
| Number of cases cured | ... | ... | ... | ... | 634 |
| Do. do. still under treatment at 31/12/19 | ... | ... | ... | ... | 15 |
| Do. do. sight of one eye slightly impaired | ... | ... | ... | ... | 4 |
| Do. do. totally blind in one eye | ... | ... | ... | ... | 1 |
| Do. do. not requiring visits of inspector | ... | ... | ... | ... | 18 |

There was one instance in which the parents and the patient removed to another town; the name and address was forwarded to the local authority at their destination.

SUMMARY OF VISITS TO MIDWIVES, OPHTHALMIA CASES, ETC.

The following statement gives the total number of visits made by the inspectors during the year:—

| | | | | | |
|---|-----|-----|-----|-----|--------------------|
| Routine visits to Midwives | ... | ... | ... | ... | 3,643 |
| General enquiries into work of Midwives | ... | ... | ... | ... | 2,397 |
| Enquiries as to cases of Puerperal Fever | ... | ... | ... | ... | 55 |
| Special enquiries <i>re</i> Accounts for Emergency Assistance | ... | ... | ... | ... | 1,241 |
| Visits and re-visits as to cases of Ophthalmia | ... | ... | ... | ... | 5,744 |
| | | | | | <hr/> 13,080 <hr/> |

TUBERCULOSIS.

The Complete Scheme of the Council was formulated in 1914. Based upon the recommendations of the Astor Departmental Committee on Tuberculosis the scheme provided for:—

- (1) The establishment of Tuberculosis Dispensaries.
- (2) The provision of Sanatorium accommodation.
- (3) Arrangements with General Hospitals and Voluntary Agencies, such as the Child Welfare Association, in reference to the provision of beds for surgical tuberculosis and for cases of early pulmonary disease in children.
- (4) Arrangements with Approved Institutions outside Liverpool.
- (5) The granting of domiciliary treatment and extra nourishment to insured persons and dependants who are eligible for it, a continuation of the procedure adopted since the inception of the National Health Insurance Act. The Joint Committee was of the opinion that such arrangements should also apply to uninsured cases.
- (6) Arrangements with the Liverpool Queen Victoria District Nursing Association in regard to the home nursing of suitable cases.
- (7) The continuation and augmentation of the after-care visits made by the male and female sanitary staff.
- (8) The continuation of Research work at the Liverpool University and the Consumption Hospital.

The Scheme has materialised to a very considerable extent in spite of the lack of progress during the years of the War. Under the Scheme it was estimated that there would eventually be 630 beds available in Corporation Sanatoria, 480 for adults and 150 for children. There are at the present time 225 beds at Parkhill Sanatorium, 240 beds at Fazakerley Sanatorium, and 48 beds in two wards of the Fazakerley Hospital, a total of 513 beds for adults and children out of the 630 beds intended. Added to this there will very shortly become available 100 beds for children in the Fazakerley Annexe and an additional small children's ward at the Fazakerley Sanatorium capable of holding 40 patients, a total of 653 beds in Corporation Sanatoria.

The accommodation available at voluntary institutions was estimated in the scheme as 366 beds. These have to a great extent materialised, and at the end of the year there were 251 patients in voluntary institutions not belonging to the Corporation.

The provision already made is severely taxed. At the end of the year there was a waiting list of 155 persons. This number had accumulated as the result of many new cases referred by the Medical Boards, the Local Pensions Committee, the notifications of doctors, the application of patients themselves, and the references from many voluntary agencies. It is anticipated that unless there is an increase of the present accommodation this waiting list will rise in number if the service is expanded as indicated later.

The Tuberculosis Dispensaries are three in number, and are in full working order. The chief functions of a tuberculosis dispensary have been kept clearly in view, namely, that it should act as a clearing house for all cases of tuberculosis and a treatment centre for suitable cases. All new cases are examined there, and old ones are re-examined from time to time, and this work has absorbed most of the time of the medical staff. It is not possible with the present medical staff to examine every notified case of tuberculosis and at the same time keep pace with all cases from other sources and the work of after care. As teaching centres, they have been utilised in the case of medical practitioners studying for further degrees and certain nurses wishing to gain special experience in tuberculosis.

The arrangements originally made with General Hospitals and the Liverpool Child Welfare Association have worked well in practice. Difficulty has occasionally been experienced in obtaining beds for the treatment of adult surgical cases, but children with both pulmonary and surgical tuberculosis have been accommodated in Leasowe Sanatorium, Heswall Children's Hospital, West Kirby Convalescent Home, the Ellen Gonner Home, and the Freshfield Children's Sanatorium. At the end of the year these institutions were accommodating 180 Liverpool Children.

Adult accommodation outside Liverpool is becoming increasingly difficult to obtain owing to local demands. Whereas at the end of April 99 patients were under treatment in Ventnor, Benenden, Talgarth,

Nottingham, Grosvenor and similar sanatoria, the number had fallen to 11 in December. It is considered that in time none of this outside accommodation will remain available.

Domiciliary treatment and grants of extra nourishment have been continued in the manner originally intended. Both are available for insured persons and their dependants, but as yet authority for the extension of these forms of treatment to non-insured persons has not been received. The great majority of the tuberculous population of a city must be under domiciliary treatment, and it is apparent that an efficient form of domiciliary treatment is necessary if the treatment of tuberculous patients is to be successfully undertaken. Under the present arrangements the doctor is provided with a domiciliary report to be rendered at the end of a period of not more than 13 weeks' treatment. The doctor is required to seek further examination on the part of the Tuberculosis Officer, or to suggest an alteration in the form of treatment in paragraphs of the report appropriate to the purpose if necessary. There has been a material improvement in the domiciliary reports, but there is room for further improvement if they are to be of real assistance to the Tuberculosis Officer in following the progress of a case. Home nursing is for the most part confined to the dressing of surgical cases. This is carried out by the Nurses of the Liverpool Queen Victoria District Nursing Association in all cases referred to them by the Tuberculosis Officer. The necessary dressings are supplied by the Department through the Association. This work is distinct from that performed by the seven nurses attached to the Tuberculosis Dispensaries, whose duties for the most part consist in attendance upon the Tuberculosis Officer, the visiting of patients in reference to entering Sanatoria, extra nourishment and after-care inquiries generally. These Dispensary nurses paid 4,846 visits to patients' homes during the year.

The bulk of the after-care visits and inquiries are carried out by the male and female Sanitary Inspectors, and during the year 11,968 visits of this nature were made. Appropriate reports are made to the Medical Officer of Health and action taken when necessary.

It is apparent that any modification of the original scheme should be in the nature of amplification and extension rather than alteration in principle. After-care, for example, is an important feature in this work, if the benefits derived from Sanatorium treatment are to be lasting. At

the present time practically the whole of the home visiting devolves upon the Tuberculosis Nurses and the male and female Sanitary Staff. There are many cases of tuberculosis, however, which will never be fitted to live again amid the conditions of home and employment which prevailed when their illness was contracted. For these patients a colony or settlement, with facilities for training, is necessary, if the benefit of Sanatorium treatment is to be maintained. The earlier examination of contacts is urgently required, since the chief hope of cure of this infection is the early detection of disease. It is an unfortunate fact that in a large number of the cases brought before the Tuberculosis Officer there is evidence of marked destruction of lung tissue which is beyond the hope of complete repair.

The question of dental treatment is important. By arrangement with the Local Pensions Committee all ex-service patients suffering from tuberculosis are afforded dental treatment when required prior to their admission to a Sanatorium. It is frequently the case that oral sepsis and an insufficient number of sound teeth make the full attainment of benefit from Sanatorium treatment impossible, and an extension of dental treatment to all cases of tuberculosis in which it is an essential part of their treatment is very desirable.

During the year many doubtful cases have been investigated with X-rays. As an aid to the settlement of the diagnosis in doubtful cases it is rapid and comparatively cheap. The chief alternative method is to place the patient in an Institution under observation. Apart from the difficulty in persuading patients to undergo detention for a period of observation, the expense of that proceeding is considerable.

TABLE A.

NEW CASES EXAMINED DURING THE YEAR.

| | Insured
Persons. | Dependants. | Non-insured. | Total. |
|--------------------------------|---------------------|-------------|--------------|--------|
| Phthisis | 1,130 | 616 | 249 | 1,995 |
| Non-pulmonary Tuberculosis ... | 40 | 213 | 22 | 275 |
| Non-tuberculous | 229 | 124 | 213 | 566 |
| Totals | 1,399 | 953 | 484 | 2,836 |

The number of medical examinations of cases (new and old) during the year was 5,155.

TABLE B.

DISPENSARY TREATMENT.

| | No. under
treatment
Dec. 31st,
1918. | New cases.
in 1919. | Treatment
ceased. | Remaining
under
treatment. |
|----------------------|---|------------------------|----------------------|----------------------------------|
| Insured Persons..... | 141 | 55 | 136 | 60 |
| Dependants | 109 | 69 | 101 | 77 |
| Non-insured | 183 | 82 | 170 | 95 |
| Totals | 433 | 206 | 407 | 232 |

TABLE C.

ANALYSIS OF RESULTS IN CASES WHERE DISPENSARY TREATMENT CEASED.

| | Disease
Quiescent. | Improved. | Not
Improved. | Death. | Left
district
other
treatment
afforded. |
|----------------------|-----------------------|-----------|------------------|--------|---|
| Insured Persons..... | 30 | 18 | 26 | 62 | 136 |
| Dependants | 33 | 19 | 14 | 35 | 101 |
| Non-insured | 49 | 40 | 9 | 72 | 170 |
| Totals | 112 | 77 | 49 | 169 | 407 |

TABLE D.

DOMICILIARY TREATMENT ARRANGED IN NEW AND OLD CASES.

| | | | | | |
|------------------------------|-----|-----|-----|--------|-------|
| Insured Persons | ... | ... | ... | ... | 1,466 |
| Dependants | ... | ... | ... | ... | 766 |
| Non-insured (at own expense) | ... | ... | ... | ... | 54 |
| | | | | Totals | 2,286 |

TABLE E.

THE NUMBER OF PATIENTS WAITING TO ENTER A SANATORIUM AT THE
END OF EACH QUARTER FROM 1914 TO 1919.

| | 1914. | 1915. | 1916. | 1917. | 1918. | 1919. |
|-------------------|-------|-------|-------|-------|-------|-------|
| March 31st | — | 243 | 330 | 361 | 302 | †441 |
| June 30th | — | 291 | 353 | 442 | 425 | 328 |
| September 30th | *198 | 389 | 398 | 422 | 430 | 140 |
| December 31st ... | 221 | 335 | 389 | 265 | 549 | 163 |

* The surrender of the accommodation at Fazakerley to the Military Authority.

† The acquisition of Fazakerley Sanatorium from the Military Authority.

TABLE F.

ADMISSIONS TO AND DISCHARGES FROM SANATORIA AND HOSPITALS DURING THE YEAR.

| UNDER TREATMENT,
DEC. 31ST, 1918. | | | ADMITTED DURING
1919. | | | DISCHARGED DURING
1919. | | | REMAINING UNDER
TREATMENT,
DEC. 31ST, 1919. | | |
|--------------------------------------|-----|------|--------------------------|-----|------|----------------------------|-----|------|---|-----|------|
| I.P. | D. | N.I. | I.P. | D. | N.I. | I.P. | D. | N.I. | I.P. | D. | N.I. |
| 175 | 219 | 39 | 1003 | 570 | 274 | 856 | 530 | 207 | 322 | 259 | 106 |

TABLE G.

RESULTS OF SANATORIUM AND HOSPITAL TREATMENT IN CASES DISCHARGED.

| IMPROVED. | | NOT IMPROVED. | | DEATH. | | | TOTAL DISCHARGED. | | | |
|-----------|-----|---------------|----|--------|----|------|-------------------|----|------|-----|
| I.P. | D. | I.P. | D. | I.P. | D. | N.I. | I.P. | D. | N.I. | |
| 682 | 463 | 170 | 85 | 28 | 21 | 89 | 39 | 16 | 530 | 207 |

**PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912, and REGULATIONS
(No. 2), 1918.**

Summary of Notifications during the period from the 29th
December, 1918, to 3rd January, 1920:—

| Age-periods. | Notifications on Form A. | | | | | | | | | | | | Total
Notifica-
tions on
Form A. |
|----------------|----------------------------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------------|---|---|
| | Number of Primary Notifications. | | | | | | | | | | | | |
| | 0
to
1 | 1
to
5 | 5
to
10 | 10
to
15 | 15
to
20 | 20
to
25 | 25
to
35 | 35
to
45 | 45
to
55 | 55
to
65 | 65
and up-
wards. | Total
Primary
Notifica-
tions. | |
| Pulmonary— | | | | | | | | | | | | | |
| Males | 2 | 16 | 66 | 76 | 85 | 77 | 219 | 245 | 141 | 83 | 16 | 1,026 | 1,110 |
| Females | 1 | 17 | 74 | 105 | 99 | 116 | 214 | 172 | 87 | 29 | 10 | 924 | 990 |
| Non-Pulmonary— | | | | | | | | | | | | | |
| Males | 3 | 29 | 54 | 52 | 17 | 12 | 19 | 6 | 5 | 4 | 1 | 202 | 233 |
| Females | 8 | 48 | 36 | 44 | 38 | 20 | 22 | 11 | 10 | 8 | — | 245 | 274 |

| Age-periods. | Notifications on Form B. | | | | | Number of
Notifications on
Form C. | |
|----------------|----------------------------------|---------|----------|---|---|--|------------|
| | Number of Primary Notifications. | | | | Total
Notifica-
tions on
Form B. | Poor Law
Institutions. | Sanatoria. |
| | Under
5 | 5 to 10 | 10 to 15 | Total
Primary
Notifica-
tions. | | | |
| Pulmonary— | | | | | | | |
| Males | — | 5 | 6 | 11 | 12 | 134 | 226 |
| Females | — | 5 | 15 | 20 | 22 | 55 | 153 |
| Non-Pulmonary— | | | | | | | |
| Males | — | 23 | 11 | 34 | 46 | 8 | 4 |
| Females | — | 24 | 17 | 41 | 45 | 9 | 2 |

Form “ A ” is used by Medical Practitioners on first becoming aware that a patient is suffering from tuberculosis, unless he has reasonable grounds for believing that the case has already been notified.

Form “ B ” is used by School Medical Officers to make a weekly return to the Medical Officer of Health of all cases of tuberculosis coming under their notice in carrying out the duties of medical inspection of children in Public Elementary Schools.

Form “ C ” is for the use of the Medical Officers of Poor Law Institutions and Sanatoria to make a weekly return of cases admitted to their Institutions, and applies only to cases which have been previously notified on Form “ A.”

DEATHS FROM PHTHISIS.

The number of deaths from Phthisis during the year was 1,089. The number of deaths during each of the preceding ten years, 1909-1918, has been as follows:—1,116, 1,072, 1,313, 1,189, 1,183, 1,132, 1,299, 1,254, 1,357, 1,400.

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

| DISTRICTS. | | | | QUARTERS. | | | | | | | | YEAR 1919. | | |
|-------------------|-----|-----|-----|-----------|-----|-------|-----|-------|-----|---------------|-----------|------------|-----|--------|
| | | | | March. | | June. | | Sept. | | Dec. | | M. | F. | Total. |
| | | | | M. | F. | M. | F. | M. | F. | M. | F. | | | |
| Scotland... | ... | ... | ... | 19 | 13 | 13 | 8 | 9 | 9 | 6 | 1 | 47 | 31 | 78 |
| Exchange | ... | ... | ... | 18 | 13 | 15 | 5 | 16 | 10 | 25 | 14 | 74 | 42 | 116 |
| Abercromby | ... | ... | ... | 27 | 12 | 21 | 9 | 13 | 7 | 17 | 9 | 78 | 37 | 115 |
| Everton | ... | ... | ... | 26 | 25 | 21 | 19 | 25 | 24 | 21 | 18 | 93 | 86 | 179 |
| Kirkdale | ... | ... | ... | 15 | 9 | 16 | 8 | 10 | 4 | 15 | 17 | 56 | 38 | 94 |
| West Derby (West) | ... | ... | ... | 20 | 18 | 9 | 10 | 10 | 7 | 15 | 11 | 54 | 46 | 100 |
| Toxteth | ... | ... | ... | 32 | 21 | 18 | 10 | 24 | 13 | 10 | 14 | 84 | 58 | 142 |
| Walton | ... | ... | ... | 23 | 12 | 6 | 11 | 7 | 12 | 9 | 9 | 45 | 44 | 89 |
| West Derby (East) | ... | ... | ... | 15 | 10 | 9 | 12 | 8 | 4 | 9 | 7 | 41 | 33 | 74 |
| Wavertree | ... | ... | ... | 10 | 4 | 3 | 4 | 3 | 3 | 2 | 2 | 18 | 13 | 31 |
| Toxteth (East) | ... | ... | ... | 6 | 5 | 2 | 9 | 2 | 1 | 1 | 6 | 11 | 21 | 32 |
| Garston | ... | ... | ... | 5 | 8 | 1 | 4 | 1 | 1 | 1 | 2 | 8 | 15 | 23 |
| Fazakerley | ... | ... | ... | ... | 2 | 3 | 4 | 1 | ... | ... | ... | 4 | 6 | 10 |
| Woolton | ... | ... | ... | 2 | 1 | 1 | ... | 1 | ... | ... | ... | 4 | 1 | 5 |
| No Address | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| City | ... | ... | ... | 218 | 153 | 138 | 113 | 130 | 95 | 131 | 111 | 617 | 472 | 1,089 |
| AGES AT DEATH. | | | | | | | | | | | | | | |
| Under 1 year. | 1— | 2— | 5— | 10— | 15— | 20— | 30— | 40— | 50— | 60 & upwards. | All Ages. | | | |
| 3 | 4 | 6 | 22 | 43 | 112 | 217 | 234 | 235 | 153 | 60 | 1,089 | | | |

DEATHS FROM OTHER TUBERCULAR DISEASES.

Viz.:—Tubercular Peritonitis, Tubercular Meningitis, and other forms of Tuberculosis.

| DISTRICTS. | | | | | Tubercular
Peritoniti. | | Tubercular
Meningitis. | | Other forms of
Tuberculosis | | YEAR 1919. | | |
|-------------------|-----|-----|-----|-----|---------------------------|-----|---------------------------|-----|--------------------------------|--------------------|--------------|-----|-----|
| | | | | | | | | | | | M. | F. | T. |
| Scotland | ... | ... | ... | ... | 4 | ... | 1 | 1 | ... | ... | 5 | 1 | 6 |
| Exchange | ... | ... | ... | ... | 4 | ... | 5 | 3 | 6 | 4 | 15 | 7 | 22 |
| Abercromby... | ... | ... | ... | ... | 1 | 4 | 1 | 1 | 7 | 3 | 9 | 8 | 17 |
| Everton | ... | ... | ... | ... | 3 | 4 | 5 | 6 | 5 | 9 | 13 | 19 | 32 |
| Kirkdale | ... | ... | ... | ... | 1 | 1 | 4 | 3 | 4 | 4 | 9 | 8 | 17 |
| West Derby (West) | ... | ... | ... | ... | 5 | 8 | 6 | 8 | 4 | 5 | 15 | 21 | 36 |
| Toxteth | ... | ... | ... | ... | 4 | 7 | 7 | 11 | 1 | 4 | 12 | 22 | 34 |
| Walton | ... | ... | ... | ... | 7 | 6 | 5 | 3 | 4 | 1 | 16 | 10 | 26 |
| West Derby (East) | ... | ... | ... | ... | 3 | 6 | 8 | 2 | 4 | 5 | 15 | 13 | 28 |
| Wavertree | ... | ... | ... | ... | 2 | 2 | 2 | 2 | ... | 3 | 4 | 7 | 11 |
| Toxteth (East) | ... | ... | ... | ... | 1 | 1 | 2 | 1 | 1 | ... | 4 | 2 | 6 |
| Garston | ... | ... | ... | ... | 1 | ... | 3 | 3 | 2 | 3 | 6 | 6 | 12 |
| Fazakerley... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | 2 |
| Woolton | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| City | ... | ... | ... | ... | 36 | 39 | 49 | 46 | 38 | 41 | 123 | 126 | 249 |
| AGES AT DEATH. | | | | | | | | | | | | | |
| Under
1 year. | 1— | 2— | 5— | 10— | 15— | 20— | 30— | 40— | 50— | 60 & up-
wards. | All
Ages. | | |
| 28 | 32 | 50 | 43 | 28 | 18 | 16 | 11 | 6 | 10 | 7 | 249 | | |

Deaths in Public Institutions are transferred to the Districts from whence the patients came.

EMPLOYMENT OF PATIENTS AFTER SANATORIUM TREATMENT.

With regard to the beneficial employment of patients who have completed sanatorium treatment, the Port Sanitary and Hospitals Committee appointed a small deputation to visit the Colonies at Papworth and Nayland, and in connection with this visit the Medical Officer submitted the following report, viz. :—

DEPUTATION TO PAPWORTH AND NAYLAND.

It will be well in the purview of the Committee that all establishments for the reception of Pulmonary Tuberculosis have a two-fold object, one of which is to place the patient in conditions favourable to his recovery, and the other is to place the patient under conditions where he will no longer be a possible source of infection. The analogy with ordinary infectious sickness, therefore, so far as these objects are concerned, is close. The great distinction, however, between ordinary infectious sickness and tuberculosis lies in the fact that the duration of tuberculosis is long, and a sufferer may survive for many years, more especially if he can be placed under circumstances which favour quiescence of the disease—a condition which may be regarded as temporary recovery—and maintained under those circumstances which meet his needs. These may be briefly summarised as pure air, abundance of food, comfortable surroundings, congenial and appropriate occupation, and at the same time a freedom from anxiety such as commonly oppresses such patients in regard to provision made for their dependants.

So long as these circumstances continue, the patient will benefit and his life may be greatly prolonged, provided that the disease is not too far advanced at the time he comes under their influence.

The Medical Officer does not propose to enter into questions of variations in the phases and intensity of the illness, nor of the absolute necessity to have regard to the needs of all cases, mild or severe; that necessity is fully realised at Papworth, and the severer cases are dealt with on much the same lines as in any other well regulated sanatorium or hospital.

The main features, however, which characterise the Papworth administration are those relating to the section of employable persons, the outstanding feature being that the methods are wholly tempered by considerations of commonsense, and the nature and amount of employment are such as the patient is fitted for and is interested in. The capacity of the patient for work is carefully gauged; there are no set hours of work, nor prescribed task exacted from him; for the number of hours he is able to work an appropriate scale of payment is made, and the patient has the satisfaction not only of seeing the good results of the work which he undertakes, but his satisfaction is supplemented by the receipt of the same rate of pay as he would earn at the same trade elsewhere. Obviously there is a gulf between occupations such as these and the set exercises and the heavy, unsuitable, and unproductive farm work formerly advocated. Useful and attractive occupations take the place of the measured walks and the digging, and the patient's mind is occupied with other considerations than his own imagined progress or want of progress. Briefly, the foregoing indicate the main principles upon which the work of the colony is carried out.

The Papworth establishment, which at present receives male patients only, includes a large house and suitable buildings for the accommodation of the staff, a very ample acreage (approximately 250 acres), together with a small village of about 20 cottages, which it is intended to increase by 50 in the near future; there are also several shops, lecture room and entertainment hall. Workshops open to the freest ventilation, but devoid of the injury likely to result from indiscriminate exposure,—a most important distinction—are a feature of this colony.

Whilst patients are received at all stages of the disease, it is only the class whose physical condition enables them to stand a certain amount of physical exertion, to whom the special methods are applicable. So far as the working-patients are concerned, it is a condition of admission that they should have had previous sanatorium treatment, and have responded to that treatment to the extent of being able to undergo moderate exertion for three or four hours a day without deleterious results.

The trades now being pursued in Papworth include tailoring, cabinet making, furniture making, watch repairing, boot repairing, making travelling cases, poultry farming, etc. The practice followed is that a patient who has been a tradesman, is encouraged not only to work at his trade but to teach others who can be advantageously dealt with in that way. It does not appear that the trades are selected from any pre-conceived list, but any patient expert at some particular trade is given facilities for utilising his knowledge and for teaching others. At the workshops the maximum hours of labour are six, and the work is graduated to the condition of the patient.

A number of patients who, so far as medical evidence can determine, have recovered, are accommodated in cottages, where they have been joined by their wives and families. Provision is made for the education of the children, and the conditions of life are such that no risk of infection attaches to this arrangement.

The establishments at Nayland consist of a Sanatorium of a first-class order for paying patients, also of an establishment for children from the London County Council suffering from incipient pulmonary tuberculosis; in addition, certain workshops are provided on the same lines as Papworth.

It will be recognised that there are various ways of carrying out the important principles which have now been established at Papworth, but it should be added that the undertaking in that district was very greatly facilitated by the fortunate purchase of an estate of some 250 acres, having suitable buildings, cottages, etc., readily adaptable for the purpose, and, furthermore, by enjoying the advantage of having amongst its administrators Mrs. Dimsdale and Mrs. Keans, who were able to exert a very wide influence in obtaining financial aid for it, aid subsequently augmented by Government Grants. In addition, there is no doubt that the intense personal interest taken by Dr. Varrier Jones has proved a very valuable incentive in ensuring the success of the Scheme.

With regard to cost, some difficulty has been experienced in forming a judgment, in view of the experimental and rapidly extending growth of the colony.

Since the visit of the Deputation to Papworth, the Medical Officer has had the advantage of conferring with Professor Sir Sims Woodhead, an active member of the Committee, upon the subject. It is plain that, notwithstanding the great measure of success which has attended the work at Papworth, the undertaking must still be regarded as in its very early if not experimental stage. While, therefore, the Medical Officer expresses the opinion that, so far as can be judged, the results have been very satisfactory, and are more promising than developments which have been conducted on less comprehensive lines, there is no justification for the establishment of extravagant hopes such as have unhappily attended almost every advance in dealing with tuberculosis. But, apart from expectations of this character, there is everything to justify the establishment at Fazakerley, or elsewhere, if the Committee think it desirable, of an undertaking upon similar lines.

VENEREAL DISEASES.

In 1917, a scheme for the free treatment of Venereal Diseases was inaugurated under the Regulations of the Local Government Board.

This was extended from time to time as opportunity offered, and on the whole has proved a success. The facilities afforded to those suffering from these diseases have been largely availed of, and the majority of the clinics have attracted a large number of patients.

Clinics were originally established at the Royal Infirmary, Royal Southern Hospital, Skin Hospital and the Cancer and Skin Hospital. Subsequently clinics were opened at the Stanley Hospital, David Lewis Northern Hospital, and a Medical Home and Hostel was started at 283, Edge Lane for the treatment of females who are found to be suffering from Venereal Diseases at various Rescue Homes and who, if sent to the workhouse lock-wards, are found to become restless and difficult to control, the desire in sending these girls to a suitable hostel of the character mentioned being to give the best treatment under moral influences in the hope of reclaiming some of these patients.

The death of Dr. Stopford-Taylor and the closing down of the Skin Hospital, diverted a large number of patients to the Royal Infirmary and the David Lewis Northern Hospital.

Facilities have been provided for the examination of all material by the City Bacteriologist. This examination includes Wassermann tests, examination for Gonococci, Spirochaetes, etc., and below will be found a tabulated statement of the work done by this Department during the year.

| LIVERPOOL— | | | | Specimens examined. |
|---|-----|-----|-----|---------------------|
| Detection of Spirochaetes | ... | ... | ... | 15 |
| Detection of Gonococci | ... | ... | ... | 318 |
| Wasserman Reaction for Syphilis | ... | ... | ... | 2,839 |
| Still Births | ... | ... | ... | 321 |
| Ophthalmia cases | ... | ... | ... | 150 |
| Total number of Liverpool specimens examined | | | | 3,643 |
| Number of specimens examined for outside Authorities (mostly Wassermann Reaction) | | | | 2,098 |
| Grand Total | | | | 5,741 |

As the majority of the specimens sent are from patients suspected to be suffering from Syphilis or undergoing treatment, several specimens of blood may be sent from one case at different times, and, therefore, any percentages as to positive and negative results would be of no value.

A very large amount of work of this character is also carried out at the Royal Infirmary in connection with patients attending that Institution.

Whilst some of the Centres for treatment have reached a high standard of efficiency, the Royal Infirmary has had the largest number of patients on its books, so much so that certain adjustments have had to be made from time to time, both in the medical personnel and in the hours of the Clinics.

The in-patient accommodation of the Royal Infirmary has not been sufficient to cope with the numbers requiring in-patient treatment, and arrangements have been made for suitable transfers from one hospital to the other as circumstances require.

A recent development in connection with the Scheme is the introduction of auxiliary treatment and more irrigation facilities for gonorrhoea patients requiring regular treatment, and these facilities for irrigation are available almost daily and are fully utilised at nearly all the clinics.

At these clinics the treatment of patients is alone contemplated, but facilities are also provided for disinfection of those who have been exposed to the risk of infection. Additional evening clinics have been provided at the various hospitals to meet needs of cases where it is impossible for workers to attend at usual times. It has been felt that it would be useful if centrally situated premises could be obtained where seamen of all nationalities and suffering from ill-health of any kind could be seen and directed to clinics suitable for their particular ailment, and amongst these Venereal Diseases would be met very largely. It has not been possible so far to get premises suitable for this purpose, but the subject has not been lost sight of.

The existing arrangements have, therefore, given successful results, as will be seen from the accompanying tables.

TABLE SHOWING TOTAL NUMBER OF NEW CASES OF VENEREAL DISEASE AND THE ATTENDANCES AT THE VARIOUS CITY CLINICS DURING THE YEAR 1919.

| Hospital. | Date of opening. | New cases. | Attendances. | Ceased to attend before cure completed. |
|----------------------------|------------------|------------|--------------|---|
| Royal Infirmary | 1/8/1917 | 3,851 | 36,624 | 2,530* |
| Cancer and Skin | 31/1/1918 | 1,059 | 13,266 | 326 |
| Royal Southern | 7/9/1917 | 547 | 2,626 | 61 |
| David Lewis Northern | 23/6/1919 | 321 | 2,771 | 50 |
| Stanley | 7/7/1919 | 151 | 1,189 | 10 |

* Figures not comparable owing to different systems of time limitation.

TABLE SHOWING CLASSIFICATION OF CASES ATTENDING THE LIVERPOOL ROYAL INFIRMARY DURING 1919.

| | NEW CASES. | | | CEASED TO ATTEND BEFORE CURE COMPLETED. | | | TOTAL ATTENDANCES. | | |
|---|------------|-----|--------|---|-----|--------|--------------------|-------|--------|
| | M. | F. | Total. | M. | F. | Total. | M. | F. | Total. |
| Syphilis* | 1,257 | 323 | 1,580 | 1,020 | 331 | 1,351 | 15,155 | 5,175 | 20,330 |
| Gonorrhœa* | 1,519 | 112 | 1,631 | 1,102 | 59 | 1,161 | 14,636 | 551 | 15,187 |
| Soft Chancre | 10 | — | 10 | — | — | — | 22 | — | 22 |
| Suspected cases examined and found to be free from V.D. | 556 | 74 | 30 | — | — | — | 966 | 119 | 1,085 |
| Total | 3,342 | 509 | 3,851 | 2,122 | 390 | 2,512 | 30,779 | 5,845 | 36,624 |

* Of these, 63 males and 15 females were found to be suffering from Syphilis and Gonorrhœa as concurrent infections.

The Royal Commission in their Report stated that the most important subject to be considered in the treatment and prevention of Venereal Diseases is the establishment of free treatment centres, readily available for all sufferers.

Schemes for this free treatment have now been provided in almost all the large centres of population.

The existing arrangements at the clinics provide for treatment of patients, so that, as far as possible, they will not be singled out or made conspicuous. Free supplies of Salvarsan substitutes have been made available by the Health Department to those medical practitioners who are qualified to receive them. The Drugs have been stocked and issued by Professor Beattie.

The following drugs have been issued by the Department to Institutions and medical practitioners during the year 1919:—

| | | | | | | |
|---------------------|-----|-----|-----|-----|-----|---------------|
| Neokharsivan | ... | ... | ... | ... | ... | 14,500 doses. |
| Kharsivan | ... | ... | ... | ... | ... | 250 „ |
| N.A.B. | ... | ... | ... | ... | ... | 5,000 „ |
| Glucose Galyl | ... | ... | ... | ... | ... | 400 „ |
| Intravenous Galyl | ... | ... | ... | ... | ... | 80 „ |
| Intramuscular Galyl | ... | ... | ... | ... | ... | 70 „ |

About one-sixth of these drugs has been issued to 32 medical practitioners.

The examination of still-births by the City Bacteriologist has been carefully carried out and the results indicate that Syphilis was the cause of the still-births in a large proportion of cases, the causative agent of syphilis being found in 24 cases, *i.e.*, between 10 and 11 per cent. of those examined—a somewhat lower figure than Professor Beattie has previously found.

In many cases the parents have been persuaded to undergo treatment at the Venereal Diseases Centres or by their own medical attendants.

This following-up of patients is carried out by specially appointed and qualified members of the Health Staff. The services of the midwife in attendance on the patient have in some cases been of value.

Educational propaganda is of importance, and has been undertaken by the Merseyside Branch of the National Council for combating Venereal Diseases.

The great defect of the present system is that no compulsion can be exercised on patients to continue their course of treatment until cured, or even reported as free from infection. As will be seen from the Table

appended, large numbers of patients give up treatment when the local manifestations (such as pain, discomfort, etc.) of the disease have subsided.

It has been felt for some time that the next step to control these diseases must be one by which they will be attacked upon the basis of the control of communicable diseases. Many objections have been raised against this legislative control, such as the danger of greater concealment, etc., but the same arguments were brought forward when other infectious diseases were included under the Notification Act.

The Medical Officer's suggestions on this subject, which were confirmed by the Liverpool City Council in June, 1919, and forwarded to Government Departments and others interested, are again included in this report, and there can be no doubt that such measures applied to these diseases would have good results.

A prosecution under the Venereal Diseases Act, 1917, was undertaken in Glasgow, on the report of one of the Medical Officers attached to a Liverpool Venereal Diseases Clinic, that a patient attending had been treated by a so-called "Professor" in Glasgow for Syphilis previous to coming to him. This "Professor" was an "unqualified" person, and from the evidence, had been conducting a lucrative business for years. Several other venereal disease patients who were treated by him were discovered by the Glasgow Authorities, and a strong case was presented before Lord Justice Salvesen. The Jury convicted him, and the Judge imposed a sentence of six months' imprisonment.

VENEREAL DISEASES.

Suggestions for further legislation made by the Medical Officer of Health at the request of the Chairman of the Special Venereal Diseases Sub-Committee.

1. That the Bill should be entitled "A Bill to facilitate and Ensure Continuity of Treatment of Patients suffering from Venereal Diseases in a communicable form, and to Prevent the Spread of such Disease."

2. The preamble of the Bill should have reference to the contagious nature, and to the extent of the ravages of Venereal Disease, and to the necessity for such provision.

3. The Clauses should authorise and provide as follows:—

(a) The establishment and maintenance of adequate Centres, and the provision and payment for skilled medical treatment free of charge to the patients themselves.*

(b) Local Authorities to provide such suitable hospital accommodation for Venereal Diseases as may be necessary.

(c) It shall be the duty of every person who knows, or has reasonable grounds to believe, that he is suffering from Venereal Disease, to consult a medical practitioner, and to conform with the requirements of medical treatment.

(d) No person shall knowingly infect any other person with a Venereal Disease or knowingly do or permit or suffer any act likely to lead to the infection of any other person with such a disease. Any person guilty of a contravention of this Section shall be liable to a penalty of not more than £100, or to imprisonment with or without hard labour for not more than twelve months, or to both such penalty and imprisonment.

(e) It shall be the duty of every medical practitioner who has a case of Venereal Disease under treatment to explain to the patient the nature of his illness, and the necessity for carrying out treatment until cured, and in the event of it being necessary for the patient to discontinue treatment with that practitioner, he shall be transferred to another treatment centre or medical practitioner, and the aforesaid medical practitioner shall furnish the patient with a Treatment Card (provided by the Sanitary Authority), indicating the stage of treatment reached for the information of the medical practitioner who will continue the treatment.

(f) It shall be an obligation upon the patient to continue his attendance until, in the view of the medical practitioner, he is free from infection, and in the event of a patient discontinuing treatment without assigning a cause whilst, in the opinion of the medical practitioner, he is in an infectious condition, it shall be the duty of the medical practitioner to report the case to the

* This provision is already made, but that is no reason why it should not find a place in the proposed Bill, it would pave the way for the other measures.

Medical Officer of Health for the district, who shall make enquiries as to the reasons for the patient's non-attendance. In the event of no adequate reason being assigned by the patient for neglect to place himself under or to continue medical treatment, it shall be the duty of the Medical Officer of Health to lay an Information, to be heard before a Court of Summary Jurisdiction, the Court to be empowered to make an Order upon the patient to place himself under the care of the medical practitioner or to resume treatment, unless in the meantime he does so voluntarily.

(g) The terms of Sections 124 and 125 of the Public Health Act, 1897, and Section 65 of the Public Health Acts Amendment Act, 1907, shall be extended so as to apply to persons infringing the foregoing requirements.

(h) Cases shall be heard *in camera*.

(i) It shall be the duty of the parents or guardians of infected persons under 16 years of age to see that they are placed under treatment as prescribed by the Bill.

(j) The remuneration of the medical practitioner on account of the additional obligations imposed by these requirements shall be taken into consideration when fixing the stipends of the officers appointed to the Centres or Institutions controlled by the Local Authority. In the case of private medical practitioners a fee of shall be paid by the Local Authority for each certificate which the medical practitioner finds it necessary to furnish.

4. The provisions of the Bill shall apply equally to both sexes.

HOSPITAL ACCOMMODATION.

During the year 1919 establishments which had been in temporary military occupation, were restored to the Liverpool Corporation and the necessary repairs and re-painting were put in hand to make them ready for the accommodation of civilian cases.

The Fazakerley Sanatorium was vacated early in the year, and phthisis patients were received into residence in March. The number of tuberculosis patients on the waiting list at that period was 432, and although numerous difficulties arose in connection with the preparation and furnishing of the wards, at the end of the year there were 171 patients in the Institution out of the normal accommodation of 240.

The Fazakerley Infectious Hospital was not ready for patients until the month of July, when, although the necessary work of repairs and re-fitting was far from complete, a commencement was made by taking in cases of scarlet fever. The work progressed slowly, but by the end of the year there were 185 patients in the Institution, the full complement being 350.

In connection with the Sparrow Hall Hospital, which had been used for military infectious cases, extensive repairs and alterations were found to be necessary, and at the close of the year it had not been possible to proceed with the work.

During the period of the war additional beds had been placed in most of the City Hospitals to cope with the shortage of accommodation which of course was bound to occur owing to the allocation of the Fazakerley and other Institutions for military purposes.

When these establishments were taken over again for City use, the accommodation was restored to the pre-war figure, and at the end of the year stood as follows:—

| | | | | | | |
|-------------------------------|-----|-----|-----|-----|-------|-------|
| City Hospital North | ... | ... | ... | ... | 166 | beds. |
| „ „ South | ... | ... | ... | ... | 96 | „ |
| „ „ East | ... | ... | ... | ... | 153 | „ |
| „ „ Fazakerley | ... | ... | ... | ... | 350 | „ |
| „ „ Fazakerley Annexe | ... | ... | ... | ... | 160 | „ |
| Deysbrook Hospital | ... | ... | ... | ... | 110 | „ |
| Parkhill Sanatorium | ... | ... | ... | ... | 225 | „ |
| Fazakerley Sanatorium | ... | ... | ... | ... | 240 | „ |
| Walton Institution | ... | ... | ... | ... | 40 | „ |
| David Lewis Northern Hospital | ... | ... | ... | ... | 10 | „ |
| Total | | | | | 1,550 | „ |

Deysbrook Hospital belongs to the West Derby Board of Guardians, but by arrangement has been in the possession of the Corporation since October, 1914, and is used for convalescent cases.

The Committee of the David Lewis Northern Hospital have continued to place 10 beds at the disposal of the Hospitals Committee for the treatment of enteric and anthrax, etc., cases, and the West Derby Board of Guardians have also continued the use of 40 beds for the treatment of measles, etc., cases, at Walton Institution.

The value of the hospitals, and the immense amount of useful work performed, is shown by the fact that no less than 7,265 patients were treated within their walls during the year. This number includes the patients admitted to the David Lewis Northern Hospital and the Walton Institution.

Arrangements have been made between the Hospitals Committee and various Local Authorities to receive cases of infectious disease from districts beyond the City boundary, namely, Sefton Rural District, Waterloo and Seaforth, Great Crosby, Little Crosby, Leasowe Hospital, and the Children's Convalescent Home, West Kirby.

Arrangements have also been made to deal with any case of cholera, yellow fever, or plague, which may arise in any of the neighbouring Urban or Rural Districts. A suitable charge is made in each case.

CITY HOSPITALS.

The following tables, prepared by the Medical Staff of each hospital, show the number of patients, the nature of the illness, and the results at each of the eight hospitals during the year 1919:—

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

Visiting Physician, Dr. R. I. RICHARDSON.

Resident Physician, Dr. F. A. BELAM.

| DISEASES. | Remaining
Dec. 31st, 1918. | Admitted
during the year. | Transferred from
other City
Hospitals. | Total under
Treatment during
the year. | Transferred
to Convalescent
Hospital. | Transferred
to other
City Hospitals. | Discharged
Cured. | Remaining
at end of year. | Died within
48 hours of
Admission. | Total Deaths. | Total Mortality
per cent. of
Admissions. |
|---|-------------------------------|------------------------------|--|--|---|--|----------------------|------------------------------|--|---------------|--|
| Scarlet Fever. | 93 | 806 | 17 | 916 | 275 | — | 503 | 115 | 3 | 23 | 2·85 |
| Typhus Fever. | — | 1 | — | 1 | — | — | 1 | — | — | — | — |
| Enteric Fever | — | 16 | — | 16 | — | — | 16 | — | — | — | — |
| Diphtheria ... | 12 | 56 | — | 68 | — | — | 52 | — | 4 | 16 | 28·57 |
| Measles..... | — | 2 | — | 2 | — | — | 1 | 1 | — | — | — |
| Whooping
Cough..... | — | — | — | — | — | — | — | — | — | — | — |
| Other Diseases | 1 | 39 | — | 40 | — | — | 31 | — | 1 | 9 | 23·00 |
| Isolation and
Observation
Cases | 4 | 8 | — | 12 | — | — | 12 | — | — | — | — |
| Totals ... | 110 | 928 | 17 | 1055 | 275 | — | 616 | 116 | 8 | 48 | 5·17 |

CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. H. A. CLARKE.

Resident Physician, Dr. R. NIXON.

| DISEASES. | Remaining
Dec. 31st, 1918. | Admitted
during the
year. | Transferred
from other
City Hospitals. | Total under
Treatment
during the year. | Transferred
to Convalescent
Hospital. | Transferred
to other City
Hospitals. | Discharged
Cured. | Remaining
at end of year. | Died within
48 hours of
Admission. | Total Deaths. | Total Mortality
per cent.
of Admissions. |
|--|-------------------------------|---------------------------------|--|--|---|--|----------------------|------------------------------|--|---------------|--|
| Enteric Fever..... | — | 1 | — | 1 | — | — | 1 | — | — | — | — |
| Scarlet Fever..... | 101 | 627 | — | 728 | 282 | — | 335 | 92 | 4 | 19 | 3·03 |
| Diphtheria | — | 7 | — | 7 | — | — | 6 | 1 | — | — | — |
| Measles | — | 4 | — | 4 | — | — | 3 | 1 | — | — | — |
| Influenza..... | — | 13 | — | 13 | — | — | 12 | — | — | 1 | 7·69 |
| Other Diseases..... | — | 1 | — | 1 | — | — | — | — | — | 1 | 100·0 |
| Isolation & Obser-
vation Cases | 9 | 9 | — | 18 | — | — | 16 | 2 | — | — | — |
| Totals | 110 | 662 | — | 772 | 282 | — | 373 | 96 | 4 | 21 | 3·17 |

FAZAKERLEY SANATORIUM.

Medical Superintendent, Dr. C. RUNDLE.

*Resident Medical Officers, { Dr. W. CRANE.
Dr. E. E. MAWSON.*

| DISEASES. | Remaining Dec.
31st, 1918. | Admitted during
the year. | Transferred from
other City Hospitals | Total under Treat-
ment during the
year. | Transferred to
Convalescent Hospital | Transferred to other
City Hospitals. | Discharged. | Remaining
at end of year. | Died within 48
hours of Admission. | Total Deaths. | Total Mortality
per cent. of
Admissions. |
|----------------|-------------------------------|------------------------------|--|--|---|---|-------------|------------------------------|---------------------------------------|---------------|--|
| Phthisis | — | 433 | — | 433 | — | — | 176 | 218 | 1 | 39 | 9.0 |

CITY HOSPITAL, FAZAKERLEY ANNEXE.

Medical Superintendent, Dr. C. RUNDLE.

Medical Officer, DR. F. M. KERRUISH.

| Diseases. | Remaining
Dec. 31st, 1918. | Admitted
during the year. | Transferred
from other
City Hospitals. | Total under
Treatment dur-
ing the year. | Transferred to
Convalescent
Hospital. | Transferred
to other
City Hospitals. | Discharged
Cured. | Remaining at
end of year. | Died within
48 hours of
Admission. | Total
Deaths. | Total Mortality
per cent. of
Admissions. |
|------------------------------------|-------------------------------|------------------------------|--|--|---|--|----------------------|------------------------------|--|------------------|--|
| Scarlet Fever..... | 83 | 609 | — | 692 | 135 | — | 466 | 76 | 4 | 15 | 2.5 |
| Entéric Fever | — | 3 | — | 3 | — | — | 3 | — | — | — | — |
| Diphtheria | 24 | 470 | — | 494 | 4 | — | 433 | 28 | 7 | 29 | 6.2 |
| Measles | — | 15 | — | 15 | — | — | 13 | — | 2 | 2 | 13.3 |
| Whooping Cough ... | — | 1 | — | 1 | — | — | 1 | — | — | — | — |
| Other Diseases..... | 18 | 37 | — | 55 | — | — | 40 | 15 | — | — | — |
| Isolation and
Observation Cases | — | — | — | — | — | — | — | — | — | — | — |
| Totals | 125 | 1135 | — | 1260 | 139 | — | 956 | 119 | 13 | 46 | 4.0 |

CITY HOSPITAL, FAZAKERLEY.

Medical Superintendent, DR. C. RUNDLE.

Resident Medical Officer, DR. A. E. HODGSON.

| DISEASES. | Remaining
Dec. 31st, 1918. | Admitted
during the year. | Transferred
from other
City Hospitals. | Total under
Treatment dur-
ing the year. | Transferred
to Convalescent
Hospital. | Transferred
to other
City Hospitals. | Discharged
Cured. | Remaining at
end of year. | Died within
48 hours of
Admission. | Total Deaths. | Total Mortality
per cent. of
Admissions. |
|--|-------------------------------|------------------------------|--|--|---|--|----------------------|------------------------------|--|---------------|--|
| Scarlet Fever... | — | 306 | — | 306 | — | 66 | 126 | 108 | 4 | 6 | 1·9 |
| Enteric Fever.. | — | — | — | — | — | — | — | — | — | — | — |
| Diphtheria..... | — | 30 | — | 30 | — | — | — | 29 | — | 1 | 3·3 |
| Measles | — | 15 | — | 15 | — | — | 5 | 8 | 1 | 2 | 13·3 |
| Whooping
Cough..... | — | 1 | — | 1 | — | — | 1 | — | — | — | — |
| Other Diseases. | — | 30 | — | 30 | — | — | 30 | — | — | — | — |
| Isolation and
Observation
Cases..... | — | 8 | — | 8 | — | — | 5 | 3 | — | — | — |
| Totals..... | — | 390 | — | 390 | — | 66 | 167 | 148 | 5 | 9 | 2·3 |

CITY HOSPITAL, DEYSBROOK, WEST DERBY.

Visiting Physician, Dr. W. J. ROBERTSON DUNN.

| Diseases. | Remaining
Dec. 31st, 1918. | Admitted during
the year | Transferred
from other
City Hospitals | Total under
Treatment during
the year | Transferred to
Convalescent
Hospital | Transferred
to other
City Hospitals | Discharged
Cured | Remaining at
end of year | Died within
48 hours of
Admission | Total Deaths | Total Mortality
per cent. of
Admissions |
|-------------------|-------------------------------|-----------------------------|---|---|--|---|---------------------|-----------------------------|---|--------------|---|
| Scarlet Fever ... | 56 | 14 | 747 | 817 | — | 18 | 719 | 80 | — | — | — |

CITY HOSPITAL, PARKHILL.

Medical Superintendent, Dr. H. R. MACINTYRE.

| DISEASES. | Remaining Dec.
31st, 1918. | Admitted during
the year. | Transferred from
other City Hospitals. | Total under Treat-
ment during the
year. | Transferred to
Convalescent Hospital. | Transferred to other
City Hospitals. | Discharged. | Remaining
at end of year. | Died within 48
hours of admission | Total Deaths. | Total Mortality
per cent. of
Admissions. |
|----------------|-------------------------------|------------------------------|---|--|--|---|-------------|------------------------------|--------------------------------------|---------------|--|
| Phthisis | 194 | *541 | 1 | 736 | — | 2 | 436 | 211 | — | 87 | 16·08 |

* Of this number, in two cases there was no definite evidence of Tuberculosis and in 11 cases the primary lesion was non-pulmonary.

CITY HOSPITAL EAST, MILL LANE, OLD SWAN.

Visiting Physician, DR. H. A. CLARKE.

Resident Medical Officer, DR. T. SMITH DUNCAN.

| DISEASES. | Remaining Dec.
31st, 1918. | Admitted during
the year. | Transferred from
other City Hospitals. | Total under Treat-
ment during the
year. | Transferred to
Convalescent Hospital. | Transferred to other
City Ho-pitals. | Discharged. | Remaining
at end of year. | Died within 48
hours of Admission. | Total Deaths. | Total Mortality
per cent. of
Admissions. |
|--|-------------------------------|------------------------------|---|--|--|---|-------------|------------------------------|---------------------------------------|---------------|--|
| Scarlet Fever..... | — | 12 | — | 12 | — | 1 | 11 | — | — | — | — |
| Enteric Fever | — | — | — | — | — | — | — | — | — | — | — |
| Diphtheria..... | 123 | 1,190 | — | 1,313 | — | — | 1,062 | 115 | 52 | 138 | 11·5 |
| Measles | — | — | — | — | — | — | — | — | — | — | — |
| Other Diseases | 10 | 35 | — | 45 | — | — | 35 | — | — | 10 | 28·5 |
| Isolation and Obser-
vation Cases ... | 7 | 6 | — | 13 | — | — | 3 | 11 | — | — | — |
| Totals..... | 140 | 1,243 | — | 1,383 | — | 1 | 1,111 | 126 | 52 | 148 | 11·9 |

SANITARY ADMINISTRATION.

The number of occasions upon which the advice and assistance of the Health Department have been sought during the year was 18,836.

The District Sanitary Inspectors visit at the earliest possible moment all premises where a nuisance is complained of, and last year 26,058 nuisances were discovered as the result of complaints. Preliminary notices were served either on the owners or the occupiers to remedy 21,260 nuisances. The remaining 4,798 nuisances came within the province of other departments, and were referred to those departments to be dealt with.

The nuisances for which notices were served were referred to the Prosecuting Inspectors for re-inspection, and where necessary further proceedings were taken to cause the abatement of the nuisance.

The Inspectors, in the course of house to house inspection, discovered 64,713 nuisances, and preliminary notices were served on the owner or occupier. A number of defects were also referred to other departments.

On re-inspection, the number found not abated was 18,690, and statutory notices were served to remedy them. These were again re-inspected by the District Inspectors, and those found not abated were referred to the Prosecuting Inspectors for further action. In addition, all nuisances found in process of being abated, or to which the District Inspector was unable to gain access for re-inspection, were referred to the Prosecuting Inspectors.

REFERENCES FROM OTHER DEPARTMENTS.

The references from the other departments, numbering 29,822, mainly comprised insanitary conditions discovered by officers belonging to those departments, but with which it is not within their province to deal.

REFERENCES TO OTHER DEPARTMENTS.

The number of matters referred to other departments was 37,129.

The references to the Water Engineer comprise mainly defective fittings, resulting in waste of water; also cases in which the supply was insufficient owing to various causes.

The references to the City Engineer consist principally of choked main drains and street gullies, and defective street and passage pavements; the references to the Building Surveyor concern dangerous walls, floors, roofs, &c.

NOTICES ISSUED.

The number of preliminary notices issued was 42,002, and the number of statutory notices was 20,484.

RE-INSPECTION OF NUISANCES.

The number of nuisances referred to Prosecuting Inspectors for re-inspection was 24,774, and 49,234 visits were paid to re-inspect these nuisances.

There are now 80,000 sanitary ashbins in use in the City, and there are still approximately 8,000 ashpits in the City.

SPECIAL VISITS.

Visits have been made to railway carriages, marine stores, &c.

EXAMINATION OF CELLARS AND CELLAR DWELLINGS.

| | | | | | |
|--|-----|-----|-----|-----|--------|
| Number of inspections of street cellars | ... | ... | ... | ... | 15,602 |
| „ inspections of court cellars | ... | ... | ... | ... | 554 |
| „ notices issued to cease letting or occupying | ... | ... | ... | ... | 188 |

VISITS AND ENQUIRIES AT INFECTED HOUSES.

| | | | | | |
|---|-----|-----|-----|-----|-------|
| Number of visits and re-visits to phthisis cases | ... | ... | ... | ... | 3,909 |
| „ enquiries <i>re</i> suspected smallpox contacts | ... | ... | ... | ... | 7,066 |
| „ enquiries <i>re</i> suspected typhus fever contacts | ... | ... | ... | ... | 257 |
| „ other enquiries | ... | ... | ... | ... | 1,599 |

The number of children excluded from attending school from houses where infectious sickness existed was 22,147.

SMOKE NUISANCES.

The number of reports of excessive smoke from manufactories was 41, and from steamers in river and docks 79.

OFFENSIVE TRADES.

The number of inspections of premises where offensive trades are carried on was 953.

KNACKER'S YARD, CARRUTHERS STREET.

Carcases of diseased horses and cattle are destroyed here under the supervision of an Inspector of the Public Health Department, in specially tested iron pans with covered lids, which have been erected for the purpose. Unsound meat is also destroyed on these premises.

The number of carcasses destroyed on account of old age or minor complaints was 2,263.

INSPECTION OF STABLES AND REMOVAL OF MANURE.

Attention has been given to the inspection of stables and the necessity for the frequent removal of manure emphasised.

The number of visits to stables was 2,259, and the number of disinfections of middensteads was 10,769.

The middensteads are sprayed with lime after being emptied.

COURT AND ALLEY EXAMINATION.

The number of inspections of courts and alleys was 19,060. The number of closets found dirty but cleansed by Officer's instructions was about 50 per cent. of the total number of closets inspected.

In 1890 there were 2,165 courts and alleys in the City, this number has been reduced to 386, and shows a diminution in 30 years of 1,779 courts and alleys.

EXTERMINATION OF RATS.

A staff of rat-catchers is systematically employed in the destruction of rats.

The number of rats caught within the City was 9,715 (including those caught in sewers). Of this total 2,188 rats were sent to the City Bacteriologist at the University for examination.

A large number of rats were also caught on ships, and about the docks and warehouses by the Officers of the Port Sanitary Authority.

Various companies, such as the Zeba Company, perform a very useful work in connection with the destruction of rats, and a large number of rats were destroyed by men employed by these firms during the year.

The removal of the foul deep ashpit from the rear of dwellings and the substitution of suitable covered galvanized bins, whilst providing a sanitary improvement, has also undoubtedly been a material factor in the removal of rats from the proximity to dwellings.

Active and special measures were taken within the City (in accordance with the circular letter of the Board of Agriculture) during the two weeks ending October 31st, to ensure the destruction of as many rats as possible, and also to bring to public notice the necessity for reducing the rat population to the lowest possible dimensions.

There are special reasons for a constant campaign against rats in Liverpool. The first is the possibility of the spread of plague, a disease which from time to time is, and will continue to be, brought into the Port. The destruction and damage to valuable property, foodstuffs, etc., by means of rats, further justify the stringent measures taken in Liverpool at all times against these vermin, and the maintenance of the special staffs employed by the Health Committee and the Port Sanitary and Hospitals Committee to effect their extermination. In this connection, the co-operation of shipowners, warehouse owners, and so forth, is always sought and obtained.

During the period of the special campaign, 5,888 rats were caught within the City and Port, the sum of £56 11s. 11d. being paid for 2,388 rats in accordance with the Press notice. Sixpence per rat was paid for 2,239 rats and 1d. for 149 rats; 3,500 rats were caught by private firms, for which no payment was asked.

The campaign supplemented the measures in active operation from year's end to year's end, and was entered upon with the utmost possible vigour during the scheduled fortnight. It consisted of repeatedly advertising the project in each of the morning and evening papers, and the Press further rendered valuable help by frequently calling attention to the objects in view by means of suitable articles.

A public Lecture, presided over by the Chairman of the Health Committee, was given at the Picton Lecture Hall by Mr. M. A. C. Hinton, of the Natural History Department of the British Museum, at which there was a large attendance.

A special Exhibition was held for a fortnight in the Museum, showing methods of rat destruction, traps, poisons, etc., as well as the natural enemies of these vermin; also the danger of rats as carriers of disease, and the damage which they do. Models, specially prepared drawings, and illustrations were also on view. It is estimated that upwards of 15,000 people were attracted to this Exhibition. The various Cinemas throughout the City helped the scheme of destruction by notices thrown on the screens.

As the main object of the destruction of rats is the removal of a medium for the conveyance of Plague, the occasion was taken advantage of to ascertain whether or not any of the rats caught from the various districts of the City were infected to any extent with plague. A large number of rats were sent to the Bacteriological Laboratories, and the Ministry of Health kindly authorised Dr. Griffiths, one of the Bacteriologists connected with the Ministry, to co-operate with Professor Beattie in the necessary examination of the rats.

Of the 5,888 rats (brown, 2,371 black, 3,517), 2,531 were caught within the City, and 3,357 on the Dock Estate. The number of rats sent for bacteriological examination was 2,017. Of these, two were found to be infected with Plague, and the places where they were caught are situated in close proximity to the steamship which came from plague-infected South American ports, the circumstances in connection with which have already been fully reported on.

Active methods and measures were continued on the Dock Estate and in the more modern warehouses to render the buildings rat-proof or to

diminish harbourage and to make nesting difficult. The risk of infection of a district is gauged by the amount of feeding and harbourage afforded to the rats.

With regard to the methods of trapping, the bird-lime tray is quite as effective as any other method, and in regard to poisons it is difficult to say whether one poison has an advantage over another. Barium carbonate is believed by many to be very effective, and is relatively non-poisonous to domestic animals. In various cases the use of the rat virus has been effective.

BACTERIOLOGICAL EXAMINATION OF RATS.

During the year, the usual examination of rats for plague infection was carried out, and in July a plague-infected mouse was found in a Dock warehouse and was associated with a case of plague in man. Despite the fact that a careful examination of the premises was made, together with bacteriological examination of all the rats caught, no further infection was found.

During the Rat Week in October last, with the assistance of Dr. F. Griffith, Bacteriologist to the Ministry of Health, a wide area (including dock quays and warehouses along the docks) was mapped out, and a very thorough examination of a large number of rats was made.

It is satisfactory to record that the results obtained corroborated the evidence revealed by the ordinary routine systematic examination undertaken day by day, and it was conclusively proved that the rats found infected were located in an area contiguous to the dock quays.

The disease is not, therefore, endemic in Liverpool, and the isolated infected animals which have been found came from ships arriving from infected ports. As a result of the daily examination which is carried out, these stray infected animals are soon discovered, and no spread of the disease takes place, thus emphasising the extreme importance of the systematic examination of rats.

The Health Committee invite the careful attention of Owners and Occupiers of Warehouses and other Premises to the following Memorandum, and their co-operation in the measures suggested for dealing with Rats.

INFECTION is liable to be carried by RATS and is
to be prevented :—

(1) By wholesale destruction of rats.

(2) By their exclusion from dwellings, warehouses, and places of business generally, and by the destruction of their haunts and feeding places in the vicinity of dwellings.

Rats gain access to Buildings chiefly :—

(1) By burrowing through the earth below the flooring ;

(2) Along the course of drainage and other pipes led through main walls in holes which are too large ; and

(3) By badly fitting doors, doors broken at the foot, and other openings on ground floors.

This is to be met :—

(1) By cementing or asphaltting earthen basements where these are burrowed.

(2) By packing loosely fitting holes through which drain or other pipes pass ;

(3) By refitting doorways, protecting the food if necessary with sheet iron, and by wire-netting openings in basements which cannot otherwise be dealt with. Rat runs in buildings should be discovered and destroyed.

Rats are attracted to buildings in search of food.

Ashpits, collections of garbage, stable yards, &c., afford them food ; lumber heaps or disused structures are suitable for nesting.

All household refuse should, as far as possible, be burned by the householder.

The Local Authority rely on the willing co-operation of landlords and householders in these directions, and tenants will forward the work of repression by informing the Sanitary Department of premises which are rat infested.

To Destroy Rats.—Trapping and poisoning are the means most readily available ; hunting with dogs, ferrets, or mongoose is practicable in markets, stables, warehouses, &c., but the rat cannot be followed into its burrow. Good cats are serviceable in places where food-stuffs are stored in bulk.

Trapping.—A useful form of trap is a spring trap, baited with ham. Cage traps of various kinds are useful if not too large. They should be handled as little as possible, and with gloved hands to prevent the human scent clinging to the trap and alarming the rat.

Attention is specially called to the various preparations for the extermination of rats, such as the Liverpool Virus, Ratin, Danysz Virus, and others, all of which can be obtained through Chemists.

Although rats are carriers of disease it is possible that other animals may convey it, and it is therefore undesirable to keep animals unnecessarily as domestic pets.

The following statement shows the number of rats caught and examined or destroyed in the City and Port during the year 1919:—

RATS CAUGHT.

CITY.

| | | |
|--|-----|-------|
| Number of rats caught in warehouses, stores, etc ... | ... | 4,698 |
| „ „ „ sewers ... | ... | 70 |
| „ „ obtained from other sources... | ... | 4,947 |
| Total | ... | 9,715 |

PORT.

| | | |
|------------------------------------|-----|--------|
| Number of rats caught in ships ... | ... | 8,971 |
| „ „ „ on quays ... | ... | 1,245 |
| „ „ obtained from other sources | ... | 91 |
| Total | ... | 10,307 |

RATS SUBMITTED FOR BACTERIOLOGICAL EXAMINATION.

| | | |
|------|-----|-------|
| City | ... | 2,188 |
| Port | ... | 7,310 |
| | | 9,498 |

RATS DESTROYED.

| | | |
|-----------------------|-----|--------|
| City | ... | 7,527 |
| Port | ... | 2,997 |
| | | 10,524 |
| Total rats dealt with | ... | 20,022 |

PRINCES DOCK AND FORD STREET MORTUARIES.

The total number of bodies deposited at these Mortuaries was 679.

CREMATORIUM.

The Crematorium is situated in Anfield Cemetery, and was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the Burial Authority for the City, the administration was taken over in October, 1908, by the Crematorium Sub-Committee.

The number of cremations which have taken place since the opening is shown in the following table:—

| | | | |
|-----------|----|-----------|-------|
| 1896..... | 2 | 1910..... | 37 |
| 1897..... | 10 | 1911..... | 50 |
| 1898..... | 27 | 1912..... | 52 |
| 1899..... | 23 | 1913..... | 66 |
| 1900..... | 40 | 1914..... | 49 |
| 1901..... | 40 | 1915..... | 53 |
| 1902..... | 54 | 1916..... | 58 |
| 1903..... | 35 | 1917..... | 62 |
| 1904..... | 40 | 1918..... | 70 |
| 1905..... | 35 | 1919..... | 88 |
| 1906..... | 46 | | — |
| 1907..... | 34 | | 1,049 |
| 1908..... | 32 | | — |
| 1909..... | 46 | | |

CINEMATOGRAPHS.

The premises licensed by the City Justices have been systematically visited throughout the year, 306 visits having been paid. The visits have been mainly at night, but day inspections have also been made.

Special attention has been directed to the ventilation of the auditorium, sanitary convenience and cleanliness, and generally speaking the premises are kept in a satisfactory condition.

The attention of the Managers is constantly directed to the need of the fans being kept in operation during the entertainment, and also as to the necessity for flushing the auditorium by opening the doors during the interval.

COMMON LODGING HOUSES.

In the year 1866 there were 1,278 Common Lodging Houses on the Register. These houses were registered under the Liverpool Sanitary Act, 1844, and the Common Lodging Houses Acts of 1851 and 1853.

Bye-laws were made in 1848 and 1860 to regulate such houses. These bye-laws were repealed in 1869, when new bye-laws were made under powers given by the Common Lodging Houses Acts of 1851 and 1853, and confirmed by the Public Health Act, 1875, Sec. 326, and these remain in force at the present time.

During the year 1867 all Common Lodging Houses not having a separate day room for the use of lodgers, and all houses taking lodgers in and not having this accommodation, were registered as Sub-Let Houses. The cubic space required in Common Lodging Houses was 300 cubic feet per head at that time, as against 400 cubic feet at present.

Further powers to deal with Common Lodging Houses are given under Part 5 of the Public Health Acts Amendment Act, 1907 (adopted in 1912), Sections 69 to 75, particulars of which will be found in the Annual Report for 1913.

The Liverpool Corporation Act, 1913, Section 36 (details of which will be found in the Annual Report for 1913), deals with keepers who induce persons suffering from trachoma or other contagious diseases of the eye to become lodgers in a lodging-house.

The Annual Report for 1913 contains a list showing the number of Common Lodging Houses added to and removed from the Register since 1866.

INSPECTION OF LODGING HOUSES.

| | | | |
|---|-----|-----|-----|
| Lodging-houses on Register, December 31st, 1918 | ... | ... | 231 |
| „ removed from Register during 1919 | ... | ... | 42 |
| „ added to the Register | ... | ... | 20 |
| „ on Register, December 31st, 1919 | ... | ... | 209 |

These houses provide accommodation for 8,083 lodgers.

There are 24 houses providing accommodation for 792 women lodgers. For details of Women's Lodging Houses see Reports for the years 1909 and 1914.

| | | | | | |
|--------------|-----|-----|-----|-----|-------|
| | | | | | 1919. |
| Day visits | ... | ... | ... | ... | 7,981 |
| Night visits | ... | ... | ... | ... | 309 |

There were 291 special visits *re* notified cases of phthisis (included in above).

Five informations were laid against keepers for offences against the Bye-laws:—

- 1 for overcrowding.
- 4 for not sweeping floors.

Convictions followed in 4 cases, and 1 was discharged, cautioned.

Under the Public Health Acts Amendment Act, 1907, Sections 69 to 72, 68 houses were re-registered, 49 deputy-keepers were registered, and the registrations of two deputy-keepers cancelled.

SEAMEN'S LICENSED LODGING-HOUSES.

The Corporation have made Bye-laws, with the sanction of the President of the Board of Trade, for the licensing of Seamen's Lodging Houses, under the Merchant Shipping (Fishing Boats) Act, 1883, Section 48.

Applications from the keepers of Registered Common Lodging Houses for licenses authorising the designation of such Registered Common Lodging Houses as Seamen's Licensed Lodging Houses, are infrequent, only three such licensed houses now being on the register, providing accommodation for 74 seamen.

The number of licenses granted since the adoption of the Seamen's Lodging House Bye-laws is 33.

It has not been found necessary to institute proceedings under the bye-laws in question.

Some years ago the holders of licenses to keep Seamen's Lodging Houses were authorised by the Board of Trade to board vessels and seek

for lodgers, and while this privilege was granted there was an advantage in holding such a license, but that privilege being now withdrawn it does not appear that there is any advantage to the keeper of a Common Lodging House to have his premises registered as a Seamen's Lodging House, hence, probably, the small number upon the register.

HOUSES LET IN LODGINGS.

SUB-LET HOUSES.

The first bye-laws made to deal with these houses were confirmed by the Secretary of State, November, 1866, and were made under powers given by the Liverpool Sanitary Act of 1866, Section 35. Previous to the adoption of these bye-laws overcrowding was dealt with under the Nuisance Removal Act, 1855. These bye-laws were amended in 1869 under the Act of 1866, and further amended in 1885 and 1886 under the Public Health Act of 1875, Section 90.

Bye-laws were made in 1901 requiring 400 cubic feet for each adult person, and 200 cubic feet for every person below ten years of age. Prior to the adoption of these bye-laws the cubic space required for each adult was 350 cubic feet, and two children below ten years of age counted as one person. Powers were also given to deal with the non-separation of sexes in lodgers' rooms, and to enforce the cleansing of stairs and passages used in common.

These bye-laws were repealed in 1911, and new bye-laws were made giving additional powers to deal with the non-separation of sexes in tenants' and lodgers' rooms, overcrowding, and to enforce the cleansing of rooms, stairs, and passages.

Powers were also given to enforce the provision of water-closet accommodation (one water-closet for every twelve persons), the lime-washing of walls and ceilings of houses, yards and water-closets at stated intervals.

INSPECTION OF HOUSES LET IN LODGINGS.

| | | | | |
|---|-----|-----|-----|--------|
| Houses on register, December 31st, 1918 | ... | ... | ... | 16,870 |
| „ removed from register during 1919 | ... | ... | ... | 2,555 |
| „ added to register during 1919 | ... | ... | ... | 321 |
| „ on register, December 31st, 1919 | ... | ... | ... | 14,636 |

DAY VISITS :

| | | | | | | | | |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|---------|
| Day visits | ... | ... | ... | ... | ... | ... | ... | 110,137 |
| Rooms measured | ... | ... | ... | ... | ... | ... | ... | 1,780 |
| Floors found dirty | ... | ... | ... | ... | ... | ... | ... | 532 |
| Stairs and passages dirty | ... | ... | ... | ... | ... | ... | ... | 59 |

Informations were laid for breaches of the bye-laws as follows :—

| | | | | | | | | |
|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|----|
| Not washing floors | ... | ... | ... | ... | ... | ... | ... | 71 |
| Not sweeping floors | ... | ... | ... | ... | ... | ... | ... | 61 |
| Not cleansing stairs, passages, &c. | ... | ... | ... | ... | ... | ... | ... | 10 |

NIGHT VISITS :

| | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|--------|
| Night visits | ... | ... | ... | ... | ... | ... | ... | 23,350 |
| Rooms found overcrowded | ... | ... | ... | ... | ... | ... | ... | 1,697 |
| Cases of overcrowding found | ... | ... | ... | ... | ... | ... | ... | 1,537 |
| Cases of overcrowding abated on re-visit | ... | ... | ... | ... | ... | ... | ... | 755 |
| Informations laid for overcrowding | ... | ... | ... | ... | ... | ... | ... | 198 |
| Convictions for overcrowding | ... | ... | ... | ... | ... | ... | ... | 191 |
| Discharged | ... | ... | ... | ... | ... | ... | ... | 7 |

DETAILS OF OVERCROWDING :

| | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| Overcrowding by families occupying 1 room | ... | ... | ... | ... | ... | ... | ... | 327 |
| „ „ „ 2 rooms | ... | ... | ... | ... | ... | ... | ... | 622 |
| „ „ „ 3 or more rooms | ... | ... | ... | ... | ... | ... | ... | 588 |

NON-SEPARATION OF SEXES :

| | | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Cases found | ... | ... | ... | ... | ... | ... | ... | 287 |
| Informations laid | ... | ... | ... | ... | ... | ... | ... | 106 |
| Convictions | ... | ... | ... | ... | ... | ... | ... | 97 |
| Discharged | ... | ... | ... | ... | ... | ... | ... | 8 |
| Withdrawn | ... | ... | ... | ... | ... | ... | ... | 1 |

When no information was laid, offending persons were re-visited, cautioned, and instructed how to re-arrange occupants of the rooms, and again re-visited.

The following table shows the number of houses let in lodgings on the register, together with the number of visits for the prevention of overcrowding for the past 19 years:—

| Year. | No. of Houses
let in
Lodgings on
Register. | No. of night
visits for
prevention of
overcrowding. | No. of
convictions for
overcrowding. | Percentage of
convictions to
number of visits. |
|-------------------|---|--|--|--|
| 1901 | 18,917 | 17,863 | 1,351 | 7.56 |
| ¹ 1902 | 19,976 | 17,274 | 1,150 | 6.65 |
| 1903 | 21,719 | 18,439 | 1,264 | 6.85 |
| 1904 | 22,401 | 17,886 | 1,148 | 6.41 |
| ² 1905 | 20,518 | 19,193 | 1,326 | 6.90 |
| 1906 | 19,714 | 18,838 | 920 | 4.88 |
| 1907 | 19,832 | 22,982 | 962 | 4.18 |
| 1908 | 19,776 | 23,074 | 738 | 3.19 |
| 1909 | 19,654 | 23,534 | 576 | 2.44 |
| 1910 | 19,436 | 23,273 | 414 | 1.77 |
| 1911 | 18,873 | 21,788 | 526 | 2.41 |
| 1912 | 16,475 | 22,173 | 612 | 2.76 |
| ³ 1913 | 16,405 | 22,938 | 660 | 2.87 |
| 1914 | 16,492 | 24,309 | 693 | 2.85 |
| 1915 | 16,626 | 21,659 | 595 | 2.74 |
| 1916 | 16,827 | 22,199 | 636 | 2.86 |
| 1917 | 16,635 | 21,746 | 508 | 2.33 |
| 1918 | 16,870 | 19,524 | 220 | 1.12 |
| 1919 | 14,636 | 23,350 | 191 | 0.81 |

¹ Garston included in the City.

² Fazakerley do.

³ Woolton, Allerton and Childwall included in the City.

CANAL BOATS ACTS, 1877 and 1884.

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the City, exclusive of locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 4,643, and the condition of the boats and their occupants as regards matters dealt with in the Acts and Regulations is indicated in the following information:—

| | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
| Boats on register | ... | ... | ... | ... | ... | 455 |
| „ regularly plying on Canal | ... | ... | ... | ... | ... | 385 |
| „ unable to trace | ... | ... | ... | ... | ... | 70 |
| „ taken off register | ... | ... | ... | ... | ... | 2 |
| New boats registered | ... | ... | ... | ... | ... | 4 |
| Boats re-registered on account of change of owners | ... | ... | ... | ... | ... | 6 |
| Boats re-registered on account of change of name of boat | ... | ... | ... | ... | ... | 1 |
| Copies of certificates of registration re-issued | ... | ... | ... | ... | ... | 6 |
| Boats on which contraventions occurred | ... | ... | ... | ... | ... | 54* |
| Nature of contraventions— | | | | | | |
| Unregistered boats used as dwellings | ... | ... | ... | ... | ... | 5 |
| No certificate of registration on board | ... | ... | ... | ... | ... | 5 |
| Registered lettering, &c., not legible | ... | ... | ... | ... | ... | 6 |
| Defective bulkheads | ... | ... | ... | ... | ... | 5 |
| Leaky decks | ... | ... | ... | ... | ... | 31 |
| Defective ventilation | ... | ... | ... | ... | ... | 1 |
| „ stove | ... | ... | ... | ... | ... | 1 |
| „ cabin floors | ... | ... | ... | ... | ... | 2 |
| „ deck lights | ... | ... | ... | ... | ... | 2 |
| „ bed berths | ... | ... | ... | ... | ... | 1 |
| Cabins requiring re-painting | ... | ... | ... | ... | ... | 13 |
| „ indecently occupied | ... | ... | ... | ... | ... | 1 |
| No water cask | ... | ... | ... | ... | ... | 4 |

Written notices were issued to Owners in 55 instances.

Verbal notices given to Owners in 5 instances.

„ notice „ „ Master in 1 instance.

* Of this number 28 were registered by other Authorities.

No informations were laid during the year against Owners or Masters for infringements of the Acts and Regulations.

No cases of infectious sickness were reported as having occurred during the year on any canal boat visiting the district.

There are no motor-propelled boats registered by this Authority.

In 1898 the Canal Boat Inspectors were appointed as Port Sanitary Inspectors—an appointment which authorised them to inspect all classes of boats—as a difficulty arose in connection with certain boats plying upon the canal which were not registered under the Canal Boats Acts, but which had been registered by the Board of Trade under the Merchant Shipping Acts. Seventy-five visits were made to boats of this class, and all were found correct.

In 1903 the Port Sanitary Inspectors were appointed as Canal Boat Inspectors. This appointment authorised them to inspect canal boats which ply to and from the docks and on the river. During the year 638 visits were made by these Inspectors, and they are included in the foregoing total. The number of contraventions for which written notices were served on the owners was 37 in connection with 28 boats.

**Administration of the Factory and Workshop Act, 1901, in
connection with
FACTORIES, WORKSHOPS, WORKPLACES & HOMEWORK**

The following Tables are prepared by request of the Secretary of State :—

1.—Inspection of Factories, Workshops and Workplaces.

Including Inspections made by Sanitary Inspectors.

| Premises. | Number of | | |
|---|--------------|------------------|---------------|
| | Inspections. | Written Notices. | Prosecutions. |
| Factories
(Including Factory Laundries.) | 363 | 84 | — |
| Workshops
(Including Workshop Laundries.) | 9,111 | 1,078 | — |
| Workplaces
(Other than outworkers' premises in-
cluded in Part 3 of this Report.) | 690 | 72 | — |
| Total | 10,164 | 1,234 | — |

2.—Defects Found in Factories, Workshops and Workplaces.

| Particulars. | Number of Defects. | | | Number
of
Prosecu-
tions. |
|---|--------------------|----------|-----------------------------------|------------------------------------|
| | Found. | Remedied | Referred
to H.M.
Inspector. | |
| <i>Nuisances under the Public Health Acts :—*</i> | | | | |
| Want of cleanliness | 376 | 376 | — | — |
| Want of ventilation | 9 | 9 | — | — |
| Overcrowding | — | — | — | — |
| Want of drainage of floors | — | — | — | — |
| Other nuisances | 480 | 480 | — | — |
| †Sanitary accommodation {insufficient | 37 | 37 | — | — |
| | 287 | 287 | — | — |
| | 10 | 10 | — | — |
| <i>Offences under the Factory and Workshop Act :—</i> | | | | |
| Illegal occupation of underground bakehouses
(S. 101) | 1 | 1 | — | — |
| Breach of special sanitary requirements for
bakehouses (SS. 97 to 100) | 1 | 1 | — | — |
| Other offences
(Excluding offences relating to outwork which
are included in Part 3 of this Report). | — | — | — | — |
| Total | 1,201 | 1,201 | — | — |

* Including those specified in Sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Section 22 of the Public Health Act Amendment Act, 1890, has been adopted by the City Council. The standard of sufficiency and suitability of sanitary accommodation for persons employed in Factories and Workshops is in accordance with the Sanitary Accommodation Order of 4th February, 1903.

3.—Home Work.

| OUTWORKERS' LISTS, SECTION 107. | | | | | | | | | | | | | | | | | | | OUTWORK IN UNWHOLESOME PREMISES, SECTION 108. | | | OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110. | | |
|---------------------------------|--------------------------------|---------------|-------------------|-----------|--------|---------------|--|---------------|---|------|---|--|--|------|------------------------|---------------|-----------------------|------------|---|------|------|--|------|------|
| NATURE OF WORK. | Lists received from Employers. | | | | | | | Prosecutions. | | | | Number of Inspections of Outworkers' premises. | Instances. | | | Prosecutions. | Orders made (S. 110). | Instances. | Prosecutions (Sections 109, 110). | | | | | |
| | Twice in the year. | | Once in the year. | | | | Numbers of Addresses of Outworkers received from other Councils. | | Numbers of Addresses of Outworkers forwarded to other Councils. | | Notices served on Occupiers as to keeping or sending Lists. | | Failing to keep or permit inspection of Lists. | | Failing to send Lists. | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | a Lists. | a Outworkers. | Con-tractors. | Work-men. | Lists. | Con-tractors. | Work-men. | (8) | (9) | (10) | (11) | | (12) | (13) | (14) | | | | | (15) | (16) | (17) | (18) | (19) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | | | | | | |
| * | | | | | | | | | | | | | | | | | | | | | | | | |
| Wearing Apparel..... | 376 | 1,225 | 443 | 23 | 51 | 42 | 6 | 46 | 50 | — | — | 485 | — | — | — | — | — | — | — | | | | | |
| Linen | 4 | 26 | 46 | 2 | — | 3 | — | 4 | 1 | — | — | 49 | — | — | — | — | — | — | — | | | | | |
| Lace Curtains | — | — | 2 | — | — | — | — | — | — | — | — | 2 | — | — | — | — | — | — | — | | | | | |
| Curtains, etc. | — | — | 4 | — | — | — | — | — | — | — | — | 4 | — | — | — | — | — | — | — | | | | | |
| Furniture, etc. | 2 | 6 | 2 | 1 | — | 1 | — | — | — | — | — | 3 | — | — | — | — | — | — | — | | | | | |
| Electro-Plate | 2 | 16 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| Brass | 2 | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| Fur Pulling | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| Umbrellas | — | 4 | — | — | — | — | — | — | — | — | — | 2 | — | — | — | — | — | — | — | | | | | |
| Paper Bags | 2 | 2 | 21 | — | — | — | — | — | — | — | — | 21 | — | — | — | — | — | — | — | | | | | |
| Feather Sorting | 2 | — | 12 | — | — | — | — | — | — | — | — | 12 | — | — | — | — | — | — | — | | | | | |
| Baskets | 2 | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | | | |
| Processes incidental to above | 2 | 6 | 8 | — | — | — | — | 2 | — | — | — | 8 | — | — | — | — | — | — | — | | | | | |
| Total | 394 | 1,297 | 540 | 26 | 51 | 46 | 6 | 52 | 51 | — | — | 586 | — | — | — | — | — | — | — | | | | | |

* Several Employers give out work of more than one of the classes specified in column 1. The lists are included among those in column 2 against the principal class only, but the outworkers are assigned in columns 3 and 4 into their respective classes.

The figures in columns 2, 3 and 4 are the total number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists. They are, therefore, double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name is often repeated.

| 4.—Registered Workshops. | | | 5.—Other Matters. | |
|--|-----|-----|--|----------------------|
| Workshops on the Register (S. 131) at the end of the year. | | | Class. | Number. |
| Workshops | ... | ... | Matters notified to H.M. Inspector of Factories:—
Failure to affix Abstract of the Factory and Workshop Act (S. 133) | 34 |
| Cooking Kitchens of Restaurants | ... | ... | Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5) | 118 |
| Bakehouses | ... | ... | Other...
Underground Bakehouses (S. 101) : —
Certificates granted during the year
In use at the end of year ... | 118
—
4
121 |
| Total number on Register | | | | |

SHOPS ACTS, 1912 AND 1913.

During the year 144 complaints have been received, relating principally to the non-closing of shops on the weekly half-holiday.

AMBULANCE AND DISINFECTING STAFF.

There have been 5,472 infectious cases removed by officers of the Ambulance Staff to the hospitals during the year.

The number of rooms stripped or sprayed was 6,811, and the number of rooms disinfected was 31,772. There were also 1,585 Library books disinfected.

The number of articles, consisting of bedding, clothing, etc., disinfected at the Disinfecting Apparatus was 95,365, and the number of articles destroyed was 34, compensation being paid for the latter in conformity with the provisions of the Public Health Act.

DISINFECTION OF BEDDING, CLOTHING, &c.

Two Disinfecting Stations have been established in the City for a number of years, each well equipped to deal with large quantities of material. The North End of the City is served by the Charters Street Station and the South End by the Smithdown Road Station. The Depot in New Bird Street is now disused. When necessary the disinfecting apparatus attached to each of the City Hospitals can be utilised.

INSPECTION OF SLAUGHTER-HOUSES, &c.

The number of visits to slaughter-houses made by Meat Inspectors was 4,956, to butchers' shops 52,203.

The number of visits to fish and fruit shops made by Fish and Fruit Inspectors, 76,472.

Special visits were also paid to premises of Food Hawkers, Jam and Pickle factories, and Knackers yards.

ANIMALS KILLED IN THE CITY SLAUGHTER-HOUSES AND
DEAD MEAT IMPORTED FOR SALE.

The number of fat cattle from local dairies slaughtered in the City during the year was 6,235. The number of animals killed at the City Slaughterhouses and carcasses imported for sale was as follows:—

| | | Killed. | | Imported. |
|--------|-----|---------|-----|-----------|
| Beasts | ... | 40,296 | ... | 27,895 |
| Sheep | ... | 76,168 | ... | 142,768 |
| Lambs | ... | 53,720 | ... | 55,734 |
| Calves | ... | 27,333 | ... | 712 |
| Pigs | ... | 21,322 | ... | 1,521 |

There were also 91,742 boxes and bags of various organs and cut up pieces imported for sale.

CENTRAL SLAUGHTER-HOUSES.

The position in regard to the slaughtering of animals throughout the City is practically the same as at the close of last year.

In the interests of public health, the Health Committee have during the last 10 or 15 years declined to renew or transfer licenses for private slaughter-houses, and a gradual decline in the number of the eminently unsuitable places has, therefore, taken place. The central abattoir and the associated offensive trades remain in the condition which has been so frequently commented upon. Every effort is made to minimise the nuisances inseparable from the conduct of businesses of this kind in situations which are cramped, confined, and unsuitable, but these efforts result in very little real good, as the nature of the operations must necessarily cause nuisance, when the premises are situated as these are. The subject has been fully dealt with in previous reports.

MEAT AND OFFAL FOUND TO BE UNFIT FOR HUMAN FOOD.

| | | | | | UNWHOLESOME MEAT. | | | | UNWHOLESOME OFFAL. | | | |
|-----------------|-----|-----|-----|-----|-------------------|-------|------|-----|--------------------|-------|------|------|
| | | | | | Tons | cwts. | qrs. | lbs | Tons | cwts. | qrs. | lbs. |
| Beef | ... | ... | ... | ... | 143 | 16 | 0 | 11 | 61 | 18 | 2 | 0 |
| Mutton and Lamb | ... | ... | ... | ... | 16 | 3 | 1 | 4 | 1 | 17 | 1 | 10 |
| Veal | ... | ... | ... | ... | 6 | 18 | 3 | 10 | 0 | 6 | 2 | 11 |
| Pork | ... | ... | ... | ... | 5 | 13 | 0 | 18 | 3 | 15 | 0 | 12 |
| Goats | ... | ... | ... | ... | 0 | 17 | 0 | 9 | — | — | — | — |
| Horse Flesh | ... | ... | ... | ... | 60 | 16 | 3 | 14 | — | — | — | — |
| Total | ... | ... | ... | ... | 234 | 5 | 1 | 10 | 67 | 17 | 2 | 5 |

Refuse, consisting of Pigs' intestines, etc., 60,159 lbs.

CARCASES OF DISEASED OR INJURED ANIMALS SURRENDERED
OR SEIZED.

The number of carcasses surrendered to, or seized by the Medical Officer of Health and Inspectors, was as follows:—

| | | | | | Carcases. | Tuberculous. |
|-----------------|-----|-----|-----|-----|-----------|--------------|
| Beef | ... | ... | ... | ... | 687 | 502 |
| Mutton and Lamb | ... | ... | ... | ... | 1,020 | — |
| Veal | ... | ... | ... | ... | 402 | 8 |
| Goat | ... | ... | ... | ... | 70 | — |
| Pork | ... | ... | ... | ... | 80 | 11 |
| Horses | ... | ... | ... | ... | 197 | — |
| Total | ... | ... | ... | ... | 2,456 | 521 |

FISH, POULTRY, &c., FOUND TO BE UNFIT FOR HUMAN FOOD.

The amount of Fish found to be unfit for human food was $209\frac{3}{4}$ tons, in addition there were 123 bags of shellfish.

There were 1,872 head of poultry, 149 head of game, and 21,212 rabbits and hares; also 84 wild birds.

Amongst other various articles of food unfit for use were 731 tins of condensed milk, 2,437 tins of fish, 4,300 oysters, 173,552 eggs, 19,275 lbs. of cheese, 570 lbs. of jam and pickles, 76 lbs. of cake, 13,067 lbs. of dates, and 4,633 tins of fruit.

FRUIT, VEGETABLES, &c., FOUND TO BE UNFIT FOR HUMAN FOOD

The amount of unsound fruit destroyed was $174\frac{1}{4}$ tons, and unsound vegetables $164\frac{1}{2}$ tons.

DAIRIES, COWSHEDS AND MILKSHOPS

There is no change in the method of procedure respecting the licensing of cowsheds and the registration of dairies, milkshops and milkstores.

STATISTICS RESPECTING COWSHEDS.

| | | | | | | <u>1919</u> |
|---|--|-----|-----|-----|-----|-------------|
| Number of applications to keep cows on premises not | | | | | | |
| | previously licensed | ... | ... | | | 2 |
| „ | „ granted | ... | ... | ... | ... | 2 |
| „ | cows applied for | ... | ... | ... | ... | 4 |
| „ | „ granted | ... | ... | ... | ... | 4 |
| „ | applications for transfer to fresh tenants of cowsheds | | | | | |
| | previously licensed | ... | ... | | | 39 |
| „ | „ granted | ... | ... | ... | ... | 37 |
| „ | „ in abeyance | ... | ... | ... | ... | 2 |
| „ | Cowsheds on the register 31st December, 1918 | ... | | | | 339 |
| „ | „ „ „ 1919 | ... | | | | 323 |
| „ | cows licensed to be kept within the city area | ... | | | | 5,228 |

COWSHED INSPECTION.

| | | | | <u>1918.</u> | <u>1919.</u> |
|-----------------------------------|-----|-----|-----|--------------|--------------|
| Number of Inspections of Cowsheds | ... | ... | | 2,923 | 2,806 |
| „ found Incorrect | ... | ... | ... | 38 | 60 |

Twenty-five notices were issued to occupiers directing their attention to minor contraventions of the regulations.

The number of cowsheds in the City during the years 1910 to 1919, inclusive, together with the number of cows licensed to be kept, and the number of applications for new cowsheds are shown in the following table:—

| Years | | Cowsheds | | Cows | | Applications. |
|-------|-----|----------|-----|-------|-----|---------------|
| 1910 | ... | 447 | ... | 6,691 | ... | 4 |
| 1911 | ... | 436 | ... | 6,428 | ... | 0 |
| 1912 | ... | 432 | ... | 6,589 | ... | 3 |
| 1913 | ... | 415 | ... | 6,431 | ... | 4 |
| 1914 | ... | 429 | ... | 6,734 | ... | 21 |
| 1915 | ... | 423 | ... | 6,460 | ... | 7 |
| 1916 | ... | 383 | ... | 6,043 | ... | 8 |
| 1917 | ... | 393 | ... | 6,516 | ... | 3 |
| 1918 | ... | 339 | ... | 5,487 | ... | 1 |
| 1919 | ... | 323 | ... | 5,228 | ... | 2 |

MILKSHOPS.

| | | | | | <u>1918.</u> | <u>1919.</u> |
|--|-----|-------------|-----|------|--------------|--------------|
| Number of applications for registration | ... | ... | ... | ... | 45* | 76* |
| „ | „ | granted | ... | ... | 44 | 70 |
| „ | „ | withdrawn | ... | ... | 0 | 2 |
| „ | „ | in abeyance | ... | ... | 1 | 2 |
| „ | „ | refused | ... | ... | 0 | 2 |
| Number of Milkshops on the register at the end of 1915 | ... | | | | | 770 |
| „ | „ | „ | „ | 1916 | ... | 794 |
| „ | „ | „ | „ | 1917 | ... | 740 |
| „ | „ | „ | „ | 1918 | ... | 720 |
| „ | „ | „ | „ | 1919 | ... | 670 |

* Seventy of these applications were transfers.

DAIRIES AND MILKSHOPS.

| | | <u>1918.</u> | <u>1919.</u> |
|--|--------|--------------|--------------|
| Number of Inspections of Dairies and Milkshops | ... | 5,537 | 5,555 |
| „ found incorrect | ... .. | 3 | 6 |

Sixteen caution notices were issued to occupiers of milkshops, and three notices were sent to farmers for minor contraventions of the Regulations.

ICE CREAM MAKERS AND VENDORS.

The usual inspections have been made of the premises utilised by street traders solely for manufacturing ice-cream.

The dwellings which these street traders occupy have also been kept under observation, and in no instance during the past year has it been found that ice-cream has been made or stored in or about these dwellings.

A systematic inspection has also been made of shopkeepers' premises which are used for the manufacture or sale of ice-cream.

| | | <u>1918.</u> | <u>1919.</u> |
|-------------------------------------|--------|--------------|--------------|
| Number of premises under inspection | ... .. | 1,006 | 1,020 |
| „ visits made | ... .. | 1,777 | 2,183 |
| „ caution notices issued | ... .. | 3 | 7 |

PIGGERIES.

During the year special attention has been given to the keeping of pigs on suitable premises in continuation of the policy adopted with a view to the encouragement of food production as recommended by the Order in Council dated 10th January, 1917.

At the beginning of 1917 there were 136 piggeries licensed to keep 1,760 pigs. There are now 176 piggeries licensed to keep 2,714, an increase of 954 pigs during the past three years.

In 1919, 18 applications involving the keeping of 344 pigs were made; 16 of these applications were granted and 2 refused. 706 inspections were made during the year.

TUBERCULOSIS AND THE MILK SUPPLY.

LIVERPOOL CORPORATION ACT, 1900.

The examination of cows and cowsheds within the City has been duly carried on throughout the year, and all cases of sickness found by the Leavelookers reported to the Veterinary Department. In cases where the cows are reported to be suffering from any disease of the udder, the Medical Officer of Health directs that the animal be submitted to veterinary examination, and if it is found to be affected with disease likely to be inimical to the public health, the milk supply from the affected cow is stopped.

Apart from notifications, the Veterinary Department have submitted a great number of cows in the town to inspection.

The following is a table showing the number of visits made by the Veterinary Inspectors to cowsheds within the City boundary:—

| YEAR. | No. of Visits
to Town
Cowsheds. | No. of Cases
notified
by Owners. | Other
Visits. | No. of Cows
examined. | No. of Cows
Suspicious
of Tuber-
culosis of
the Udder. | No. of
Convictions
for Offences
under
the Act. |
|--------------|---------------------------------------|--|------------------|--------------------------|--|--|
| 1915 | 153 | 38 | 115 | 1781 | 15 | — |
| 1916 | 216 | 22 | 194 | 3232 | 11 | — |
| 1917 | 64 | 11 | 53 | 896 | 2 | — |
| 1918 | 105 | 2 | 103 | 1570 | 2 | — |
| 1919 | 72 | 14 | 58 | 867 | 2 | — |
| Totals | 610 | 87 | 523 | 8346 | 32 | — |

It has been necessary during the routine examination for the Veterinary Inspectors to take seven samples of milk for bacteriological examination. Three of these were control samples and four were direct. Of the control samples all were proved non-tubercular. Of the direct samples from abnormal udders, one was tubercular and the remainder non-tubercular.

All the above figures are included in the table of samples submitted for bacteriological examination within the City.

MILK SUPPLIED FROM OUTSIDE THE CITY BOUNDARIES.

Under the Liverpool Corporation Act, 1900, Inspectors systematically visit various places supplied with milk from the country, including the railway stations and hospitals, and there take samples. These samples are then submitted to bacteriological examination. Should they be found to contain tubercle bacilli (the germs of consumption) the Veterinary Superintendent, or his assistant, accompanied by the Medical Officer of Health or his representative, and furnished with an order signed by a magistrate resident within the county from which the milk is consigned (as prescribed by the Act), visit the farm or dairy and examine the stock therein.

The following table shows the number of visits to farms outside the City boundary during the past 5 years: —

| YEAR. | No. of Farms Visited. | No. of Re-Visits to Farms. | Total No. of Visits to Farms. | No. of Cowsheds Examined. | No. of Cows Examined. | No. of Cows Suspicious of Tuberculosis of the Udder. | No. of Convictions for Offences under the Act. | No. of Orders Prohibiting Sale of Contaminated Milk within the City. |
|-----------|-----------------------|----------------------------|-------------------------------|---------------------------|-----------------------|--|--|--|
| 1915 | 21 | 16 | 37 | 75 | 1265 | 3 | — | — |
| 1916 | 22 | 14 | 36 | 68 | 1394 | 5 | — | — |
| 1917 | 17 | 2 | 19 | 53 | 898 | 10 | — | — |
| 1918 | 10 | 1 | 11 | 14 | 449 | 9 | — | — |
| 1919 | 5 | — | 5 | 14 | 312 | 1 | — | — |
| Totals... | 75 | 33 | 108 | 224 | 4318 | 28 | — | — |

During the examination of cattle outside the City, it has been necessary for the Veterinary Department to take 15 samples of milk for bacteriological examination. Of these, 12 were control samples and 3 were direct samples. All the control samples proved non-tubercular. Of the direct samples, 1 proved tubercular and 2 non-tubercular.

DETAILS OF SAMPLES OF MILK OBTAINED FOR CHEMICAL ANALYSIS.

| | <u>1918.</u> | <u>1919.</u> |
|--|--------------|--------------|
| Number of Samples purchased on week-days in Town... | 463 | 344 |
| „ Informations | 70 | 15 |
| „ Samples taken at Railway Stations on week-days | 136 | 187 |
| „ Informations | 7 | 5 |
| „ Samples purchased on Sundays in Town ... | 113 | 92 |
| „ Informations | 16 | 7 |
| „ Samples taken at Railway Stations on Sundays | 161 | 30 |
| „ Informations | 1 | 4 |
| „ Samples taken at City Hospitals | 178 | 145 |
| „ Informations | — | — |
| „ Samples taken at Corporation Infant Welfare Centres | 98 | 125 |
| „ Informations | — | — |

MARGARINE ACT.

| | <u>1918.</u> | <u>1919.</u> |
|--|--------------|--------------|
| Number of Visits to Wholesale Dealers in Margarine ... | 44 | 288 |
| „ Visits to Shops | 3,681 | 3,508 |
| „ Informations | — | — |

SPECIAL EXAMINATIONS.

The total number of samples submitted during 1918 and 1919 for special examination was 28 and 33 respectively.

Summary of Samples submitted for Analysis from January 1st, to December 31st, 1919,
and other Statistical details.

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | | | |
|-------------------|-----------------|--------------|-------------|--------------------------------|---------------|-----------------|--------------|-------------|-----------------|---------------|
| Number taken. | Number genuine. | Adulterated. | | Nature of Sample. | Number taken. | Number genuine. | Adulterated. | | Number caut'nd. | Informations. |
| | | Sch'dule A. | Sch'dule B. | | | | Sch'dule A. | Sch'dule B. | | |
| — | — | — | — | Arrowroot..... | 21 | 21 | — | — | — | — |
| — | — | — | — | Ale (non-intoxicating) | 2 | 2 | — | — | — | — |
| 1 | 1 | — | — | Butter | 133 | 128 | 5 | — | — | — |
| 1 | 1 | — | — | Beef Suet and Rice Flour | — | — | — | — | — | — |
| 1 | 1 | — | — | Baking Powder | 13 | 12 | 1 | — | — | 1 |
| — | — | — | — | Barley | 23 | 19 | 4 | — | 4 | — |
| — | — | — | — | Blanc-mange Powder | 2 | 2 | — | — | — | — |
| 2 | — | 2 | — | Beer | 149 | 139 | 10 | — | — | — |
| — | — | — | — | Bread | 8 | 8 | — | — | — | — |
| 9 | 8 | 1 | — | Boracic Ointment | — | — | — | — | — | — |
| 1 | — | 1 | — | Borax | — | — | — | — | — | — |
| — | — | — | — | Bi-Carbonate of Soda | 2 | 2 | — | — | — | — |

SUMMARY OF SAMPLES, &c.—Continued.

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | | | |
|-------------------|-----------------|--------------|-------------|---------------------------|---------------|-----------------|--------------|-------------|-------------------|---------------|
| Number taken. | Number genuine. | Adulterated. | | Nature of Sample. | Number taken. | Number genuine. | Adulterated. | | Number caught'nd. | Informations. |
| | | Sch'dule A. | Sch'dule B. | | | | Sch'dule A. | Sch'dule B. | | |
| 2 | 2 | — | — | Coffee and Mixtures | 68 | 68 | — | — | — | — |
| 1 | 1 | — | — | Cocoa and Mixtures | 50 | 50 | — | — | — | — |
| 24 | 23 | 1 | — | Confectionery | 66 | 66 | — | — | — | — |
| — | — | — | — | Cayenne Pepper | 2 | 2 | — | — | — | — |
| — | — | — | — | Corn Flour | 5 | 5 | — | — | — | — |
| 1 | 1 | — | — | Custard Powder | 18 | 18 | — | — | — | — |
| 21 | 21 | — | — | Condensed Milk | — | — | — | — | — | — |
| — | — | — | — | Claret | 2 | 2 | — | — | — | — |
| 6 | 6 | — | — | Castor Oil | 1 | 1 | — | — | — | — |
| 6 | 6 | — | — | Cod Liver Oil | — | — | — | — | — | — |
| 4 | 2 | 2 | — | Camphorated Oil | 1 | — | 1 | — | — | — |
| — | — | — | — | Cream of Tartar | 17 | 16 | 1 | — | 1 | — |
| — | — | — | — | Curry Powder | 1 | 1 | — | — | — | — |
| — | — | — | — | Cake Flour | 2 | 2 | — | — | — | — |

SUMMARY OF SAMPLES, &c.—*continued.*

| INFORMAL SAMPLES. | | | Nature of Sample. | FORMAL SAMPLES. | | | | | Number
caut'nd.
Infor-
mations. |
|-------------------|--------------------|--------------------------------|--------------------------------------|------------------|--------------------|--------------------------------|----------------|--------------------|--|
| Number
taken. | Number
genuine. | Adulterated.
Sch'dule
A. | | Number
taken. | Number
genuine. | Adulterated.
Sch'dule
A. | Sch'dule
B. | Number
caut'nd. | |
| 1 | 1 | — | Cream | 1 | 1 | — | — | — | — |
| — | — | — | Compound Liquorice Powder | 1 | 1 | — | — | — | — |
| — | — | — | Cheese | 3 | 3 | — | — | — | — |
| — | — | — | Cream Powder | 1 | 1 | — | — | — | — |
| — | — | — | Dripping and Dripping Compound | 15 | 15 | — | — | — | — |
| — | — | — | Dessicated Cocoanut | 2 | 2 | — | — | — | — |
| 1 | 1 | — | Dried Milk | 2 | 1 | 1 | — | — | 1 |
| 3 | 3 | — | Egg Powder and Substitute | 1 | 1 | — | — | — | — |
| 3 | 3 | — | Epsom Salts | — | — | — | — | — | — |
| — | — | — | Flour | 20 | 20 | — | — | — | — |
| — | — | — | Fruit Wine | 4 | 2 | — | 2 | — | — |
| 1 | 1 | — | Flowers of Sulphur | — | — | — | — | — | — |
| — | — | — | Golden Syrup | 3 | 3 | — | — | — | — |
| — | — | — | Ground Almonds | 8 | 8 | — | — | — | — |

SUMMARY OF SAMPLES, &c.—Continued.

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | | Infor-
mations. |
|--------------------------------|--------------------|----------------|----------------|------------------|--------------------|----------------|----------------|--------------------|--------------------|
| Number
taken. | Number
genuine. | Adulterated. | | Number
taken. | Number
genuine. | Adulterated. | | Number
caut'nd. | |
| | | Sch'dule
A. | Sch'dule
B. | | | Sch'dule
A. | Sch'dule
B. | | |
| — | — | — | — | 29 | 27 | 2 | — | 2 | — |
| — | — | — | — | 6 | 2 | 3 | 1 | 1 | — |
| — | — | — | — | 1 | 1 | — | — | — | — |
| — | — | — | — | 2 | 2 | — | — | — | — |
| — | — | — | — | 20 | 15 | 5 | — | — | — |
| — | — | — | — | 1 | 1 | — | — | — | — |
| 4 | 4 | — | — | — | — | — | — | — | — |
| — | — | — | — | 1 | 1 | — | — | — | — |
| — | — | — | — | 2 | — | — | 2 | — | — |
| 2 | 2 | — | — | 1 | 1 | — | — | — | — |
| — | — | — | — | 35 | 34 | — | 1 | — | — |
| — | — | — | — | 3 | 3 | — | — | — | — |
| 19 | 19 | — | — | 67 | 66 | — | 1 | — | — |
| — | — | — | — | 6 | 4 | 2 | — | — | — |
| Nature of Sample. | | | | | | | | | |
| Ground Ginger..... | | | | | | | | | |
| Ground Cinnamon | | | | | | | | | |
| Ground Mace | | | | | | | | | |
| Ground Nutmeg | | | | | | | | | |
| Gin | | | | | | | | | |
| Grape Wine | | | | | | | | | |
| Glycerine | | | | | | | | | |
| Gingerette | | | | | | | | | |
| Ginger Wine..... | | | | | | | | | |
| Honey | | | | | | | | | |
| Jam and Marmalade | | | | | | | | | |
| Lemon Squash | | | | | | | | | |
| Lard and Lard Substitute | | | | | | | | | |
| Lime Juice | | | | | | | | | |

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | | | |
|-------------------|-----------------|--------------|-------------|-----------------------------|---------------|-----------------|--------------|-------------|----------------|---------------|
| Number taken. | Number genuine. | Adulterated. | | Nature of Sample. | Number taken. | Number genuine. | Adulterated. | | Number caught. | Informations. |
| | | Sch'dule A. | Sch'dule B. | | | | Sch'dule A. | Sch'dule B. | | |
| 4 | 4 | — | — | Olive Oil | — | — | — | — | — | — |
| 1 | 1 | — | — | Potted Beef | — | — | — | — | — | — |
| 1 | 1 | — | — | Potted Meat | — | — | — | — | — | — |
| — | — | — | — | Port Wine | 3 | 3 | — | — | — | — |
| — | — | — | — | Pea Flour | 2 | 2 | — | — | — | — |
| — | — | — | — | Pepper | 46 | 46 | — | — | — | — |
| 5 | 5 | — | — | Pickles | — | — | — | — | — | — |
| 1 | 1 | — | — | Preserved Cream | — | — | — | — | — | — |
| 1 | 1 | — | — | Potted Ham and Tongue | — | — | — | — | — | — |
| 1 | 1 | — | — | Pudding mixture | — | — | — | — | — | — |
| 1 | — | 1 | — | Potted Shrimps | 3 | — | 3 | — | 1 | 1 |
| 1 | 1 | — | — | Rice and Ground Rice | 65 | 52 | 1 | 12 | 1 | — |
| 1 | 1 | — | — | Rice and Corn Flour | 6 | 6 | — | — | — | — |
| — | — | — | — | Raisin Wine | 1 | 1 | — | — | — | — |

SUMMARY OF SAMPLES, &c.—*continued.*

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | | Infor-
mations. |
|-------------------|--------------------|----------------|----------------|-------------------------------|--------------------|----------------|----------------|--------------------|--------------------|
| Number
taken. | Number
genuine. | Adulterated. | | Number
taken. | Number
genuine. | Adulterated. | | Number
caut'nd. | |
| | | Sch'dule
A. | Sch'dule
B. | | | Sch'dule
A. | Sch'dule
B. | | |
| — | — | — | — | Rum | 38 | 28 | 9 | 1 | — |
| — | — | — | — | Raspberry Wine | 1 | 1 | — | — | — |
| — | — | — | — | Raspberry Powder | 1 | 1 | — | — | — |
| — | — | — | — | Skimmed Milk | 3 | 1 | 2 | — | 2 |
| 1 | 1 | — | — | Self Raising Flour | 25 | 25 | — | — | — |
| — | — | — | — | Sugar..... | 22 | 22 | — | — | — |
| 1 | 1 | — | — | Sugar Substitute | — | — | — | — | — |
| — | — | — | — | Sherry Wine..... | 2 | 2 | — | — | — |
| — | — | — | — | Semolina | 4 | 4 | — | — | — |
| — | — | — | — | Stout | 3 | 2 | 1 | — | — |
| — | — | — | — | Syrup | 6 | 6 | — | — | — |
| 2 | — | 2 | — | Sausage | 13 | 7 | 6 | — | — |
| 1 | — | 1 | — | Salmon and Shrimp Paste | — | — | — | — | — |
| — | — | — | — | Tea | 36 | 36 | — | — | — |

| INFORMAL SAMPLES. | | | | FORMAL SAMPLES. | | | | |
|-------------------|-----------------|--------------|-------------|-----------------|-----------------|--------------|-------------|---------------------------|
| Number taken. | Number genuine. | Adulterated. | | Number taken. | Number genuine. | Adulterated. | | Number Infor-
mations. |
| | | Sch'dule A. | Sch'dule B. | | | Sch'dule A. | Sch'dule B. | |
| — | — | — | — | 24 | 23 | — | 1 | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 6 | 6 | — | — | — | — | — | — | — |
| 2 | 2 | — | — | — | — | — | — | — |
| 1 | — | 1 | — | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 2 | — | 1 | 1 | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 1 | — | — | 1 | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| 1 | — | — | 1 | — | — | — | — | — |
| 1 | 1 | — | — | — | — | — | — | — |
| — | — | — | — | 1 | 1 | — | — | — |
| | | | | | | | | |

Tapioca
 Tinned Potted Sardines
 Tinned Brislings
 Tinned Salmon
 Tinned Lobster
 Tinned Pilchards
 Tinned Peas
 Tinned Corned Beef
 Tinned Potted Veal
 Tinned Potted Meat
 Tinned Tongue
 Tinned Apricots
 Tinned Crab
 Treacle

SUMMARY OF SAMPLES, &c.—continued.

| INFORMAL SAMPLES. | | | | Nature of Sample. | FORMAL SAMPLES. | | | | | |
|-------------------|-----------------|--------------|-------------|-----------------------|-----------------|-----------------|--------------|-------------|-----------------|-----------------|
| Number taken. | Number genuine. | Adulterated. | | | Number taken. | Number genuine. | Adulterated. | | Number caut'nd. | Infor- mations. |
| | | Sch'dule A. | Sch'dule B. | | | | Sch'dule A. | Sch'dule B. | | |
| 1 | 1 | — | — | Tea Tablets | — | — | — | — | — | |
| — | — | — | — | Vinegar | 1 | 1 | — | — | — | |
| 1 | 1 | — | — | Vaseline | — | — | — | — | — | |
| — | — | — | — | Whisky | 118 | 91 | 27 | — | — | |
| 1 | 1 | — | — | Worm Seed Cakes | — | — | — | — | — | |
| 2 | 1 | 1 | — | Zinc Ointment | 1 | — | 1 | — | — | |
| 254 | 231 | 20 | 3 | | 2274 | 1994 | 206 | 74 | 56 | |
| | | | | | | | | | 34 | |

Of the above samples, the following were taken under the Defence of the Realm Act, viz.:—

| | Samples. | | | Informations. | | Cautions. | |
|---------|----------|-----|-----|---------------|-----|-----------|-----|
| | ... | ... | ... | ... | ... | ... | ... |
| Beer | ... | ... | 149 | ... | 7 | ... | 3 |
| Gin | ... | ... | 20 | ... | 3 | ... | 2 |
| Rum | ... | ... | 38 | ... | 6 | ... | 3 |
| Sausage | ... | ... | 13 | ... | 2 | ... | 4 |
| Whiskey | ... | ... | 118 | ... | 21 | ... | 6 |

SUMMARY OF SAMPLES IN WHICH LEGAL PROCEEDINGS WERE INSTITUTED DURING THE YEAR ENDING
DECEMBER 31ST, 1919, TOGETHER WITH RESULT.

| No. of
Infor-
mations. | Nature of Samples. | Nature of Offence. | RESULT OF LEGAL PROCEEDINGS. | | | | | Costs. |
|------------------------------|----------------------|--|------------------------------|--|--|----------|-----------------|-------------------|
| | | | No. of
convic-
tions. | No.
with-
drawn on
payment
of costs. | No.
with-
drawn
and
dismissed
without
costs. | Fines | | |
| 8 | Milk | Deficient in cream | 8 | — | — | £ 18 0 0 | s. d.
4 14 0 | £ s. d.
4 14 0 |
| 4 | „ | Deficient in cream and adulterated with
water | 4 | — | — | 41 0 0 | 2 7 0 | 2 7 0 |
| 18 | „ | Adulterated with water | 11 | 1 | 6 | 63 0 0 | 8 6 6 | 8 6 6 |
| 1 | Skimmed milk | Adulterated with water | 1 | — | — | 10 0 0 | 0 10 6 | 0 10 6 |
| 1 | Dried Milk | Deficient in milk fat | 1 | — | — | — | 0 10 6 | 0 10 6 |
| 1 | Baking Powder..... | 10 per cent. of calcium sulphate | 1 | — | 1 | 2 0 0 | 0 10 6 | 0 10 6 |
| 1 | Potted Shrimps | 5 per cent. wheaten and rice flour | — | — | — | — | — | — |
| 34 | | | 26 | 1 | 7 | £134 0 0 | £16 19 0 | £16 19 0 |

POISONS AND PHARMACY ACT, 1908.

The Poisons and Pharmacy Act, 1908, came into operation on the 1st April, 1909.

The object of the Act is to regulate the sale of certain poisonous substances, and to amend the Pharmacy Acts. It is fully referred to in the Annual Report for 1909.

The numbers of licenses renewed under this Act were 18 in 1918 and 20 and 3 new licenses in 1919.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS,
1912-1917.

Report for the years ending 31st December, 1915-1919:—

1. MILK AND CREAM NOT SOLD AS PRESERVED CREAM.

Number of samples examined for the presence of a preservative:—

| | | | |
|------|-----|-----|--------------------------|
| 1915 | ... | ... | Milk, 1,086 ; Cream, 19. |
| 1916 | ... | ... | „ 1,168 ; „ 16. |
| 1917 | ... | ... | „ 1,361 ; „ 8. |
| 1918 | ... | ... | „ 1,176 ; „ 1. |
| 1919 | ... | ... | „ 922 ; „ 2. |

Number in which a preservative was reported to be present:—

| | | 1915. | 1916 | 1917. | 1918. | 1919. |
|-----------|-----|-------|------|-------|-------|-------|
| (a) Milk | ... | 1 | ... | 1 | ... | — |
| (b) Cream | ... | 6 | ... | 7 | ... | 1 |

Nature of Preservative:—Boracic Acid.

ACTION TAKEN.

(a) Information laid under the Sale of Food and Drugs Act, 1875, (Section 6).

Result... 1915—Vendor fined 60s. and 10s. 6d. costs.

1916— „ „ „ „ „

(b) 1915—Vendors cautioned.

1916— „ „

2. CREAM SOLD AS PRESERVED CREAM.

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct:—

| | 1915. | 1916. | 1917. | 1918. | 1919. |
|-----------------------------|--------|-------|-------|-------|-------|
| Number of samples taken... | 11 ... | 8 ... | 4 ... | 0 ... | 1 |
| Correct statements made ... | 10 ... | 8 ... | 4 ... | 0 ... | 1 |

(b) Determinations made of milk fat in cream sold as Preserved Cream:—

| | 1915. | 1916. | 1917. | 1918. | 1919. |
|------------------------|--------|-------|-------|-------|-------|
| Above 35 per cent. ... | 10 ... | 8 ... | 4 ... | 0 ... | 1 |

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of Preserved Cream in Article V (1) and the proviso in Article V (2) of the Regulations were not observed:—

1 and 2—The requirements of the Regulations were observed at the places visited.

3—Thickening solutions: None found.

N.B.—CREAM: For a considerable period Cream has not been available for purchase owing to the Food Controller's orders.

CREAM AND PRESERVED CREAM.

Details of samples containing preservative.

| Year. | CREAM. | | PRESERVED CREAM. | |
|-----------|---------------------------------|--------------------------------------|------------------|--------------------------------------|
| | No. | Per cent. of Preservative (Borates). | No. | Per cent. of Preservative (Borates). |
| 1915..... | 1 | 0.06 | 1 | 0.19 |
| | 1 | 0.36 | 2 | 0.22 |
| | 1 | 0.26 | 1 | 0.28 |
| | 1 | 0.38 | 1 | 0.30 |
| | 1 | 0.25 | 1 | 0.38 |
| | 1 | 0.12 | 1 | 0.25 |
| | — | — | 1 | 0.32 |
| | — | — | 1 | 0.34 |
| | — | — | 1 | 0.4 |
| 1916..... | 1 | 0.18 | 1 | 0.14 |
| | 2 | 0.4 | 1 | 0.24 |
| | 1 | 0.46 | 1 | 0.26 |
| | 1 | 0.07 | 1 | 0.31 |
| | 2 | 0.06 | 1 | 0.38 |
| | — | — | 2 | 0.50 |
| | — | — | 1 | 0.37 |
| 1917..... | None contained any preservative | | 1 | 0.25 |
| | | | 1 | 0.30 |
| | | | 1 | 0.32 |
| | | | 1 | 0.33 |
| 1918..... | 1 | 0.045 | — | — |
| 1919..... | None contained any preservative | | 1 | 0.28 |

ANNUAL REPORT OF THE CITY BACTERIOLOGIST, 1919.

By PROFESSOR J. M. BEATTIE.

During the year 1919, 24,608 specimens were submitted for examination, as compared with 19,331 in 1918.

These may be grouped as follows:—

1. Milk and other Foodstuffs (butter, meats, fruits, etc.).
2. Water.
3. Rats for possible infection with the bacillus of plague.
4. Material from infectious diseases in man (diphtheria, enteric fever, tuberculosis, cerebro-spinal meningitis, etc.).
5. Material from infectious diseases in animals (tuberculosis, anthrax, rabies, etc.).
6. Venereal Diseases.
7. Miscellaneous.

(1) MILK AND OTHER FOODSTUFFS.

Number of samples of Milk and other Foodstuffs examined each month:—

| | | | | | | |
|-----------|-----|-----|-----|-----|-----|-----------|
| January | ... | ... | ... | ... | ... | 66 |
| February | ... | ... | ... | ... | ... | 46 |
| March | ... | ... | ... | ... | ... | 38 |
| April | ... | ... | ... | ... | ... | 60 |
| May | ... | ... | ... | ... | ... | 66 |
| June | ... | ... | ... | ... | ... | 56 |
| July | ... | ... | ... | ... | ... | 47 |
| August | ... | ... | ... | ... | ... | 28 |
| September | ... | ... | ... | ... | ... | 55 |
| October | ... | ... | ... | ... | ... | 67 |
| November | ... | ... | ... | ... | ... | 67 |
| December | ... | ... | ... | ... | ... | 29 |
| | | | | | | <hr/> 625 |

The details of these are as follows:—

| | | | | | | |
|--------------------|-----|-----|-----|-----|-----|-----|
| Milks (fresh) | ... | ... | ... | ... | ... | 572 |
| „ (dried) | ... | ... | ... | .. | ... | 15 |
| „ (tinned) | | ... | ... | ... | ... | 3 |
| Meats | ... | ... | ... | ... | ... | 6 |
| Meat Pies | ... | ... | ... | ... | ... | 9 |
| Brawn | ... | ... | ... | ... | ... | 1 |
| Sausages | ... | ... | ... | ... | ... | 9 |
| Shell Fish—Mussels | | ... | ... | ... | ... | 7 |
| Oysters | | ... | ... | ... | ... | 3 |

Fifty-five samples were examined for outside Authorities, making a total of 680.

FRESH MILK.—Of the ordinary samples taken by the Inspectors the majority showed the presence of *B. coli* (indicating presence of dirt), in .01 c.c. Whereas a few samples showed *B. coli* in .001 c.c.

About 16 per cent. of the samples showed *B. enteritidis Sporogenes*, a contamination probably from manure, and 7 per cent. showed *Streptococci*. Out of the 572 samples examined, 41 were found by inoculation to be tuberculous. Several of these samples were probably duplicates, and therefore it is not possible to estimate the percentage of infected milks.

SPECIAL EXAMINATIONS.—Regular examinations of the sterilized milk from Harthill were made. These milks always showed a low bacterial count, and the absence of *B. coli*. and *B. tuberculosis*.

Special examinations of the Harthill milk, and of Commercial Pasteurised milk were undertaken at the request of the Ministry of Health. Full reports were supplied to the Ministry of Health through the Health Committee of the City, and I need only add here that, while the Commercial Pasteurised milk generally showed high bacterial counts and the presence of *B. coli*, the samples from Harthill contained comparatively few bacteria and the absence of *B. coli*. These specimens were not examined for *B. tuberculosis*.

DRIED MILK.—On two occasions samples of Dried Milk, taken from the homes where they were either ready for use or actually being used,

were examined. These showed considerable variations in bacterial content, but in the majority of samples the bacterial count was extraordinarily high. *B. coli* was absent in some samples, whereas in others it was found in .01 to .0001 of a c.c. In some samples both *staphylococci* and *streptococci* were present.

None of the other foodstuffs call for any special comment.

(2) WATER.

Number of samples of water examined each month:—

| Month. | Daily. | Monthly. | Special. |
|-----------------|--------|----------|--|
| January | — | 3 | — |
| February | — | 3 | 6 (Rivington). |
| March | — | 5 | — |
| April | — | 4 | — |
| May | 31 | 4 | 34 (Oswestry). |
| June | 30 | 5 | — |
| July | 31 | 4 | — |
| August | 31 | 5 | — |
| September | 30 | 4 | 10 (Oswestry). |
| October | 31 | 3 | 5 (Oswestry + two
Liverpool mains). |
| November | 30 | 4 | 8 (Oswestry + seven
University). |
| December | 31 | 3 | 7 (Oswestry). |

Making a total of 371 samples.

From January until April, daily samples were not examined, but in May this examination was resumed. The monthly samples are taken at the Rivington and Vyrnwy Inlets at Prescot, and from the Dudlow Lane, George Holt, and John Holmes wells (when the engines are running).

The special samples are always taken by instructions of the Water Engineer from the Filter Beds or Mains in order to test the efficiency of the filters, etc.

Some of the daily samples during the months of September, October, and November, were not quite up to the usual standard of purity, and special investigations were carried out in co-operation with the Water Engineer, and eventually we were forced to conclude that the cause was to be found in the new pipes from which the water had been collected in the New City Laboratories. After the Laboratory had been in use for some time satisfactory results were again obtained, and these have been maintained.

Apart from these variations, the supply, from a bacteriological standpoint, has been of the usual high order of purity.

For the Port Sanitary Authority 2 special samples taken from ships were examined.

For other Authorities 241 samples were examined.

Making a total of water samples examined during the year of 614.

(3) RATS AND MICE FOR POSSIBLE INFECTION WITH THE BACILLUS OF PLAGUE.

The total number examined was as follows:—

| PORT. | | CITY. | | | TOTAL. | | |
|-------|-------|-------|-------|-------|--------|-------|-------|
| Rats. | Mice. | Rats. | Mice. | Cats. | Rats. | Mice. | Cats. |
| 7,105 | 171 | 2,165 | 7 | 3 | 9,270 | 178 | 3 |

BACTERIOLOGICAL EXAMINATION OF RATS AND MICE.

The examination of rats and mice for the presence of plague infection was systematically carried out during the year, and the results showed that in isolated instances only was plague discovered in these rodents.

During "Rat Week" (October 20th-27th), with the assistance of Dr. Griffith, Bacteriologist to the Ministry of Health, a wide area was

mapped out and a very thorough examination was made of a large number of rats from all parts of the City and Port, and it is gratifying to record that the results corroborated the evidence already obtained demonstrating that Rat Plague is not endemic in Liverpool, but that the infected animals which are occasionally discovered in the neighbourhood of the riverside come from ships arriving from infected ports, and further that by the regular examinations which have been carried on for years these "stray" animals are quickly discovered and no secondary infection takes place. This emphasises the extreme importance of the routine examination of rats.

(4) MATERIAL FROM INFECTIOUS DISEASES IN MAN.

(a) *Throat infections for Diphtheria and Cerebro-Spinal Fever.*

| Sent by | Positive. | Negative. | Total. |
|----------------------|-----------|-----------|--------|
| Practitioners | 79 | 361 | 440 |
| City Hospitals | 451 | 4,259 | 4,710 |
| | 530 | 4,620 | 5,150 |

NOTE.—No definite cerebro-spinal carriers were detected.

(b) *Blood from suspected cases of Enteric Fever.*

| Sent by | Positive. | Negative. | Total. |
|---------------------|-----------|-----------|--------|
| Practitioners | 4 | 27 | 31 |
| Hospitals | 44 | 77 | 121 |
| | 48 | 104 | 152 |

(c) Sputa from suspected Tuberculosis cases.

| Sent by | Positive. | Negative. | Total. |
|---------------------|-----------|-----------|--------|
| Practitioners | 180 | 713 | 893 |
| Hospitals | 296 | 815 | 1,111 |
| | 476 | 1,528 | 2,004 |

(d) Anthrax Infection.

Three suspected malignant pustules from human subjects were examined, and all were positive.

(5) MATERIAL FROM DISEASES IN ANIMALS.*(a) Udders and other tissues.*

Seven samples, five of which showed Tuberculosis, one sarcoma, and one bacterial necrosis.

(b) Rabies.

One dog suspected of Rabies was examined, but no evidence of infection was found.

(c) Anthrax.

Wool, Hides, Hair and Skins—58 specimens were examined, and ten of these showed the bacillus of Anthrax.

Animal Foods—13 specimens were examined, but all were free from Anthrax.

Shaving Brushes—48 were examined, and 15 were infected.

Blood from Cow—2 specimens, 1 showed presence of bacillus of Anthrax.

For outside Authorities 61 shaving brushes were examined, and 23 of these showed infection with *B. Anthracis*.

The occurrence of Anthrax infection in a man was traced to one of the shaving brushes. All the other brushes were new, and were taken from various business premises. They were mainly a cheap type of brush made from goats' hair. The percentage of infected brushes is very high.

(6) VENEREAL DISEASES.

Liverpool.

Specimens examined.

| | | | | |
|---|-----|-----|-----|-------|
| Detection of Spirochaetes | ... | ... | ... | 15 |
| „ Gonococci | ... | ... | ... | 318 |
| Wassermann Reaction for Syphilis | ... | ... | ... | 2,839 |
| Still Births | ... | ... | ... | 321 |
| Ophthalmia Cases | ... | ... | ... | 150 |
| Total number of Liverpool specimens examined | | | | 3,643 |
| Number of specimens examined for outside Authorities (mostly Wassermann Reaction) | | | | 2,098 |
| Grand Total | | | | 5,741 |

As the majority of specimens sent are from patients suspected to be suffering from Syphilis, or undergoing treatment, several specimens of blood may be sent from one case at different times, and, therefore, any percentages as to positive and negative results would be of no value.

Of the Still-births, 24 gave positive evidence of the presence of Syphilis, and 11 were doubtful, though probably Syphilitic. This would give a maximum percentage of between 10 and 11—rather lower than I have previously found.

(7) MISCELLANEOUS.

| Description of Specimen. | Number. |
|---|---------|
| Urine and Fæces (many of these were for Dysentery, Typhoid, etc.) | 177 |
| Section of Tissues (Other than already referred to) | 34 |
| Hairs for Ringworm | 41 |
| Pus, Pleural Fluid, and other secretions | 269 |
| Vaccines | 119 |
| Total | 640 |

SUMMARY OF EXAMINATIONS DURING YEAR 1919.

| Description of Specimens. | Number. |
|-------------------------------|---------|
| Food Stuffs | 680 |
| Water | 614 |
| Rats, etc. | 9,451 |
| Diphtheria, etc. | 5,150 |
| Enteric | 152 |
| Sputum for Tuberculosis | 2,004 |
| Anthrax | 176 |
| Venereal Diseases | 5,741 |
| Miscellaneous | 640 |
| Total | 24,608 |

During the year special investigations, apart from those connected with the routine work of the Department, were carried out, viz.:—

1. INFLUENZA.—During the epidemics special examinations were made from the nasopharynx, from secretions, and, where available, from exudations in pleura. The general conclusions come to were that the secondary affections were mostly due to streptococci, and to a less extent pneumococci. In some, however, a staphylococcus aureus (this was specially the case in pleural exudates), was the only organism found. The B. Influenza was found in very few specimens, but in most of the cases examined pneumonia had developed before they were reported.

Some experiments were carried out to test the efficiency of throat disinfection as a preventive. The results were encouraging, but I found it very difficult to get the work done systematically and continuously. Hospital staffs were so depleted, and so busy, that one could not expect them to carry out systematic throat spraying.

2. FLOUR.—Further work was carried out in the examination of flour for the Grain Pests (War) Committee of the Royal Society, and it was established that one special type of bacterium, which was isolated

from the faeces of the acarids present in the flour was capable in itself of producing marked degenerative changes, converting the flour, in the presence of moisture, into a dark, almost black, slimy mass.

This work is not yet completed.

3. **STERILISATION OF MILK BY ELECTRICITY.**—Further experiments were carried out in the sterilization of milk by electricity. These have been embodied in a report which has been published by the Medical Research Committee.

4. **WASSERMANN REACTIONS.**—Investigations as to improvements in methods for Wassermann reactions have been carried out, and a preliminary communication has been published in the “Lancet.”

Other work, such as a study of “The Bacteria of the Throat, especially with relation to the Streptococci,” “The Types of Diphtheria Bacilla, with especial reference to the so-called pseudo diphtheria forms,” and “Variations in Bacteria in the Intestines,” are at present being undertaken by various workers in the Department.

THE GLANDERS AND FARCY ORDER OF 1907.

During the year 1919 the City was again entirely free from the disease.

Immediate notification of suspected glanders is received either from the owner, police, or the veterinary surgeon who may be called in to the case. As a further safeguard, the Veterinary Superintendent or his assistant examine the lungs of all equines sent to the horse slaughterer's yard (there is only one in the City for this purpose), and it is by these inspections that unreported cases can be discovered.

This precaution is also taken to ensure owners being notified of the existence of the disease which may be in a latent state, and to detect unscrupulous persons who may not conform to the requirements of the Order.

The following table gives the number examined during the past three years:—

| Year | Lungs Examined. | Affected. | Not Affected. |
|------|-----------------|-----------|---------------|
| 1917 | 2,685 | — | 2,685 |
| 1918 | 2,338 | — | 2,338 |
| 1919 | 2,744 | — | 2,744 |

INSPECTION OF HORSE AUCTIONS.

The sale yards in the City have been regularly visited and the animals exposed for sale therein examined for the presence of any contagious disease, under the Glanders Order of 1907, Parasitic Mange Order, 1911 and 1918, and the Epizootic Lymphangitis Order, 1905; also as to their fitness to travel in accordance with the Horses (Importation and Transit) Order of 1913, and the Protection of Animals Act of 1911.

4,753 animals were examined, of which 5 were found affected with parasitic mange.

MARKET INSPECTION.

The following number of animals were examined at the Liverpool Cattle Market during the year 1919. The figures for 1918 are also given for comparison:—

| | 1918. | 1919. |
|----------------------|--------|--------|
| Cattle | 6,142 | 7,618 |
| Sheep | 21,076 | 3,720 |
| Pigs | 3,292 | ... |
| Other Animals | 12 | ... |
| Total | 30,522 | 11,338 |

THE PARASITIC MANGE ORDER OF 1911 AND AMENDMENT
ORDER OF 1918.

Under this Order, immediate notification of actual or suspected cases of mange in horses is received from the owner, police, horse slaughterers, or veterinary surgeons, who may be called in to the case. The suspected animals are then examined by the Veterinary Department, and also the entire stud when at rest. Affected animals are immediately isolated and kept under observation until the disease has disappeared. Thorough disinfection of the premises, harness, utensils, feeding troughs, etc., is carried out under the supervision of the Veterinary Inspectors.

During the period of the War, this Order, with the exception of regulations relating to the prohibition to expose or move affected

animals, was repealed by the Board of Agriculture and Fisheries on August 6th. Owing, however, to the beneficial results obtained during the previous years, the veterinary surgeons and horse owners continued to report the disease. In this way, although having no legal power, the Veterinary Department were able to keep the disease in check wherever it was reported.

Prosecutions were instituted in four cases and convictions obtained in each.

The total number of outbreaks on premises where the disease was found to exist was 268, and the number of visits paid to these premises was 2,412.

In a number of cases infection was traced to horses outside the City.

The following table shows the figures for 1919, with the previous four years for comparison:—

| Year. | Number of Animals
and
Carcases Examined. | Number
affected
or suspected. | Recovered. | Died or
Slaughtered. |
|-------|--|-------------------------------------|------------|-------------------------|
| 1915 | 9,885 | 322 | 241 | 81 |
| 1916 | 8,016 | 303 | 230 | 73 |
| 1917 | 7,173 | 309 | 200 | 109 |
| 1918 | 5,864 | 196 | 142 | 54 |
| 1919 | 3,213 | 493 | 358 | 135 |

THE ANTHRAX ORDER OF 1910.

A number of suspected cases of Anthrax were investigated by the Health Department under this Order. Of these, 16 were referred to the Veterinary Department, and, on microscopical examination, anthrax was suspected to exist in 4 cases. These were reported to the Board of Agriculture and Fisheries in accordance with the Order and 3 cases were confirmed.

In connection with the spread of anthrax to farm animals owing to the contamination of cattle food products with the spores of the bacillus during shipment in foreign parts and during the voyage, the staff of the City and Port have kept this matter constantly before them, and systematic enquiries have been made as to the possibility of the contamination of cattle food products. In addition, the Board of

Agriculture and Fisheries have issued a notice to shipowners and others concerned, pointing out that special precautions should be adopted when cargo containing animal products likely to be infected (such as hides, hair, wool, etc.) is carried in the holds and other parts of vessels before such places are used for carrying any cargo to be utilised as cattle food.

THE RABIES ORDER OF 1897.

Seventeen suspected cases of rabies were dealt with under this Order. These were examined by the Veterinary Department and Corporation Bacteriologist and certified to be free from rabies.

THE IMPORTATION OF CANINE ANIMALS ORDER OF 1909.

This Order was issued by the Board of Agriculture in 1909 to control the importation of animals such as wolves and jackals, and so prevent the introduction of rabies by animals other than dogs whose importation was already controlled by the Importation of Dogs Order of 1901.

No examinations were made under this Order during the year.

THE PROTECTION OF ANIMALS ACTS, 1911.

Under this Act the Police have power to call in a veterinary surgeon in cases of cruelty and act upon his advice. The Veterinary Department is consulted under the Act.

EXAMINATION OF HORSES FOR HUMAN FOOD.

There were two shops in the City licensed under the Horse Flesh Act of 1889 for the sale of horse beef for human food at the end of the year.

Premises have been set apart at three slaughter-houses, viz., Carruthers Street, Foley Street, and High Street, Wavertree, for the slaughter of the horses and dressing of the carcasses.

The animals deemed suitable for human consumption are first submitted to veterinary examination, and after slaughter the carcasses are examined by the Inspectors of the Medical Officer of Health, and also in many cases by the Veterinary Inspector.

2,260 animals were examined by the Veterinary Inspector, 31 of which were condemned alive as being unfit for slaughter. Of the remaining 2,229 animals, 2,021 of these were passed for human consumption by the Inspectors of the Medical Officer of Health and 208 were condemned.

CLEANSING AND SCAVENGING.

The washing of streets, courts, back passages, &c., and the improvements in scavenging have been continued during the past year with beneficial results.

During the summer season the street washing was:—

| | | | | | | | |
|-----|---------|--------|-------|----------|-----------|-------|-----|
| 176 | streets | washed | once | a | week, | | |
| 96 | „ | „ | twice | a | week, | | |
| 24 | „ | „ | three | times | a | week, | and |
| 256 | „ | „ | as | occasion | required, | | |

and all passages and tunnel entrances to courts were also regularly washed.

Owing to the defective planning of many minor streets and the absence of adequate back passages some difficulties have yet to be overcome before the collection and removal of domestic refuse can be regarded as satisfactory. The concessions which have been made by the Health Committee in the substitution of sanitary ashbins for old insanitary ashpits have resulted in a distinct advantage to the public health.

Under the Bye-laws now in force, all newly-erected houses must be provided with suitable ashbins.

All private, domestic and office drains are flushed by the City Engineer's Staff twice a year, and there can be no question that a more frequent and very thorough flushing would be attended with great advantage.

The City Engineer has kindly supplied the following tables, which indicate the operations carried out by the Cleansing Staff under his control:—

TABLE No. 1.

NIGHT SERVICE
FOR EMPTYING COURT, &c., ASHPITS AND MIDDENS.

Middens have been practically abolished in the Old City, and consequently the operations of the night service are limited to the removal of domestic and office refuse from the neighbourhood of the Exchange, where it is impracticable to perform the work during business hours.

In the year 1900 an Improved Sanitary Ashbin was introduced, and 2,427 of these Bins have been fixed for the use of Courts, some of which have been removed owing to property being demolished.

| Collec-
tions from
Ashpits,
etc. | Quantity
of Ashes
Collected. | Quantity
of Refuse
Deposited
at
Chisenhale
Street
Depot. | Average Working Staff per night. | | | | Analysis of Work. | | Average
quantity
removed
from
each
Ashpit
at each
Collection |
|---|------------------------------------|--|----------------------------------|---------------|--------|---------|--------------------------------|---------------------------------|---|
| | | | Ashpit
Men. | Wharf
Men. | Carts. | Horses. | Loads per
Man per
Night. | Loads per
Cart per
Night. | |
| No. | Loads. | Loads. | No. | No. | No. | No. | | | Cart
Loads. |
| 1,487 | 1,351 | 1,351 | 2·67 | 1·0 | 1·0 | 1·0 | 1·67 | 4·46 | ·908 |

TABLE No. 2.
SERVICE FOR THE COLLECTION & REMOVAL OF DRY ASHPIT & ASHBIN ASHES, & COLLECTIONS BY BELL CART.

The number of notices received to empty ashpits during the year 1919 was 208 or 0·49 per cent. of the total collections.
The number of brick ashpits within the City is approximately 9,000.

From the year 1898 to the 31st December, 1919, Improved Sanitary Ashbins have been fixed as follows :—

| | | | |
|--|-----|-----|--------|
| In properties of over £10 assessment, and new properties | ... | ... | 43,879 |
| In properties of £10 assessment and under ... | ... | ... | 36,006 |
| | | | 79,885 |

In premises unsuitable for fixture bins, 44,100 loose bins have been provided.
During the year 1919 each ashpit was emptied on an average 4·84 times. The total quantity of refuse collected was 143,823 loads.

| Total
Collec-
tions from
Ashpits. | Dry Ashes. | | | | | | | | | | Average Daily Working
Staff. | | Analysis of Work. | |
|--|--|---------------------------------------|---------------------------------|----------------------------------|----------------------------|--------------------------------|------------------------|------------|----------------------|-------------|---------------------------------|---------|---------------------------|----------------------------|
| | Total
Quantity
of Refuse
Removed,
from
Ashpits
& Ashbins | Depots at which Refuse was Deposited. | | | | | | | | Ash
Men. | Carts and
Wagons. | Horses. | Loads per Man
per day. | Loads per Cart
per Day. |
| | | Chisenhale
Street. | Rathbone
Road
Destructor. | Smithdown
Road
Destructor. | St. Domingo
Destructor. | Lavrock
Bank
Destructor. | Garston
Destructor. | Sandhills. | Various
Tips, &c. | | | | | |
| No. | Loads. | Loads. | Loads. | Loads. | Loads. | Loads. | Loads. | Loads. | Loads. | 364·18 | 146·08 | 127·29 | 1·28 | 3·19 |
| 43,571 | 143,823 | 45,492 | 7,725 | 13,050 | 17,177 | 15,091 | 4,784 | 578 | 39,926 | | | | | |

The Bell-Cart service provides for the daily removal of domestic refuse from shops, business premises and dwelling houses where no provision is made for the storage of this description of refuse. This service has to be conducted within limited hours of the morning to suit the convenience of occupiers, and the exigencies of business.

TABLE No. 3.
SERVICE FOR FLUSHING AND CLEANSING TROUGH WATER-CLOSETS, &c.

The frequent flushing of trough water-closets is a sanitary measure, this type of closet being provided principally in the more densely-populated areas of the City.

A large number of the public urinals and trough water-closets are also cleansed and disinfected twice daily during the Summer season, and once daily during the remaining part of the year.

| Underground
Urinals. | Overground
Urinals. | Trough Water-Closets. | Average Working Staff per day. |
|------------------------------|-------------------------------|-----------------------|--|
| No.
and Stalls.
32—274 | No.
and Stalls.
154—563 | No.
746 | Trough W. C. Men and Urinal Men.

No.
32·23 |

TABLE No. 4.
SERVICE FOR THE CLEANSING OF STREETS, COURTS, AND PASSAGES, AND COLLECTION OF REFUSE.

| Total
Quantity of
Refuse
Collected. | Depôts at which Refuse was Deposited. | | | | | Average Daily Staff. | | | | Average
Number of
Loads
Removed
Daily per
Cart and
Motor. |
|--|---------------------------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|--|----------------------------|--------------|---|
| | Chisenhale
Street. | Sandhills. | Waverree. | Depots. | Various
Tips, &c. | Sweeping
Machines. | Average
Number of
Men
Employed. | Carts. | Horses. | |
| Loads.
43,981 | Loads.
21,176 | Loads.
3,493 | Loads.
3,085 | Loads.
4,887 | Loads.
11,340 | Per day.
·89 | Per day.
265·22 | No.
45·79
Motors '23 | No.
46·68 | No.
2·84 |

TABLE No. 5.
CLEANSING AND REMOVAL OF REFUSE FROM STREETS, COURTS, AND PASSAGES ON SUNDAYS.

On Sunday mornings a number of the principal streets in the central parts of the City are cleansed, and, as a sanitary measure, the domestic refuse in certain districts of the City is also collected.

| Street Sweepings. | | | | | | | | | | | |
|----------------------|--------------------|--------|-------------------------|--------------------|---------|------------------|--------------------|------------------|--------------------|------------------|--------------------|
| Removed. | | | Depôts where Deposited. | | | | | | | | |
| | | | Chisenhale Street. | | | Sandhills. | | Wavertree. | | Tips. | |
| Saleable Refuse. | Unsaleable Refuse. | Total. | Saleable Refuse. | Unsaleable Refuse. | | Saleable Refuse. | Unsaleable Refuse. | Saleable Refuse. | Unsaleable Refuse. | Saleable Refuse. | Unsaleable Refuse. |
| Loads. | Loads. | Loads. | Loads. | Loads. | | Loads. | Loads. | Loads. | Loads. | Loads. | Loads. |
| 866 | 510 | 1,376 | 788 | 510 | | — | — | 78 | — | — | — |
| Average Daily Staff. | | | | | | | | | | | |
| | | | Men. | | Horses. | | Motor Wagon. | | | | |
| | | | No. | No. | No. | No. | No. | No. | | | |
| | | | 130·12 | | 15·16 | | | | | | |
| | | | | | | | | | | | |

TABLE No. 6.

SERVICE FOR STREET WATERING.

In connection with Street Watering approximately 10 million gallons of Water were distributed during the season, in addition to which a large quantity was used for street washing.

| Number of Days on which Carts were out during year. | Quantity of Water Distributed. | | Average Daily Staff employed during the Season. | | | Average No. of Loads distributed Daily per Cart. |
|---|--------------------------------|--------------|---|-------------|-------------------------------|---|
| | Large Loads. | Small Loads. | Watermen. | Motor Tank. | Carts and Horses. | |
| | | | | | | |
| | | | | | | |
| 133 | 25,006 | 9,291 | 10·16 | — | Motors... 46
Horses...6·46 | Motor loads ...35·09
Horse-cart ...26·6
Hand-cart ...40·0 |

DUST LAYING.

During the season 351,929 sq. yards Carriageways were treated with Dust Laying Compositions
Of which 41,362 " " " in Sefton and Newsham Parks.

TABLE No. 7.
REMOVAL OF GARBAGE FROM ABATTOIR.

| Loads
Removed
during year. | Where Deposited. | | |
|----------------------------------|--------------------|------------|-------------------|
| | Chisenhale Street. | Sandhills. | Collingwood Dock. |
| 1,662 | 1,662 | — | — |

TABLE No. 8.
RETURN OF HORSE MANURE COLLECTED FROM FIRE STATIONS AND CORPORATION STABLES,
AND DELIVERIES TO CHISENHALE STREET DEPÔT, &c.

| TOTAL QUANTITY,
DEALT WITH
DURING THE YEAR. | DEPÔTS AT WHICH MANURE WAS DEPOSITED. | | |
|---|---------------------------------------|------------|------------|
| | CHISENHALE STREET. | SANDHILLS. | WAVERTREE. |
| Loads. | Loads. | Loads. | Loads. |
| 1,208 | 964 | 64 | 180 |

Of the above 342 loads were collected from Fire Stations.

TABLE No. 9.
DESPATCHES OF MANURE AND REFUSE.

| DEPÔTS. | Quantity of Saleable Refuse. | | | | Quantity of Unsaleable Refuse. | | | | Clinker to Works. | Grand Total. |
|--|------------------------------|-------------|-----------------------------|--------------|--------------------------------|----------------|-----------|-----------------------------|-------------------|--------------|
| | Street Sweepings | Mixture. | Ordinary Refuse to Farmers. | Total. | Sea. | Des- tructors. | Tips. | Ordinary Refuse to Farmers. | | |
| Chisenhale St., by Flats... | Tons. 8,357 | Tons. 2,640 | Tons. 22,996 | Tons. 33,993 | Tons. ... | Tons. ... | Tons. ... | Tons. ... | Tons. ... | Tons. 33,993 |
| Sandhills Flats & Rail ... | ... .. | 256 | 6,070 | 6,326 | ... | ... | ... | ... | ... | 6,326 |
| Wavertree do. ... | 4,157 | ... | ... | 4,157 | ... | ... | ... | ... | ... | 4,157 |
| Chisenhale Street and Sandhills, <i>via</i> Collingwood }
Dock per Barge "Beta" }
Clinker per "Beta" | | ... | ... | ... | 39,058 | ... | ... | ... | ... | 39,058 |
| | ... | ... | ... | ... | 7,130 | ... | ... | ... | ... | 7,130 |
| Charters Street Destructor. | ... | ... | ... | ... | ... | 44,439 | ... | ... | ... | ... |
| Rathbone Road " | ... | ... | ... | ... | ... | 9,367 | ... | ... | ... | ... |
| Smithdown Road " | ... | ... | ... | ... | ... | 22,216 | ... | ... | ... | 141,935 |
| St. Domingo " | ... | ... | ... | ... | ... | 31,212 | ... | ... | ... | ... |
| Garston " | ... | ... | ... | ... | ... | 7,176 | ... | ... | ... | ... |
| Lavrock Bank " | ... | ... | ... | ... | ... | 27,525 | ... | ... | ... | ... |
| Sundry Tips..... | 3,441 | ... | ... | 3,441 | ... | ... | 49,202 | ... | ... | 70,191 |
| Clinker to Tips | ... | ... | ... | ... | ... | ... | 27,783 | ... | ... | 27,783 |
| Ground Clinker to Works... | ... | ... | ... | ... | ... | ... | ... | ... | 7,026 | 7,026 |
| Rough Clinker to Works ... | ... | ... | ... | ... | ... | ... | ... | ... | 641 | 641 |
| Totals | 15,955 | 2,896 | 29,066 | 47,917 | 46,188 | 141,935 | 76,985 | 17,548 | 7,667 | 338,240 |

The foregoing Table shows that not less than 338,240 tons of Town's refuse have been disposed of, and this large total does not represent the actual quantity collected and carted to the Wharves, as during the Winter months a proportion of the street sweepings is in a liquefied condition, and drains away before despatch of the refuse from the Wharves.

TABLE No. 10

HORSES.

DAILY AVERAGE NUMBER EMPLOYED ON CLEANSING WORK.

| | | | | | | | | | | | | | | |
|--------------|------|--------|-------------|--|----------------------|-----------------------|----------|---------------|-----------|-----------|---------|--------------|----------|----------------------------|
| Night Ashes. | 0.89 | 116.51 | Dry Ashes. | | Street
Cleansing. | Sweeping
Machines. | Markets. | Tar Spraying. | Watering. | Abattoir. | Canals. | Destructors. | Various. | Daily
Average.
Total |
| | | | Bell Ashes. | | 45.79 | 0.89 | 1.97 | .54 | 2.55 | 2.17 | 4.62 | 5.17 | 4.02 | 185.12 |

TABLE No. 11.
AVERAGE DAILY STAFF OF MEN EMPLOYED.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--------------------------|----|-----|-----|-----|------------|---------|----------------|------------------|----|-----------|-----|------------|--------|--------------|----------------------|----------|--------|--------|-------|------------|-------|-------|-------|-------|--------|--------------|--------|------|--------|--|------------|-------|-------|---------------|-------|-----|-------|-------|------------|----|---|---|----|-----|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-------|-------|---------------|-------|------------|-----|-------|-------|------------|-----|
| Superintendent. | 1. | 1. | 2. | 10. | 4. | 17. | General | Night Service. | Working Foreman. | 1. | 3. | 1. | 5. | Total. | Day Service. | Wharves, Depôts, &c. | Foreman. | 2 | 1 | 2 | 2 | 25 | 2.5 | 23.87 | 58.37 | Total. | Grand Total. | 939.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chief Inspector. | 1. | 2. | 10. | 4. | 17. | | | Midden Men. | 3. | 1. | 5. | Labourers. | | | | | 2.5 | 23.87 | 58.37 | Labourers. | 25 | 2 | 2 | 25 | | | | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Inspectors (Divisional). | 2. | 10. | 4. | 17. | Wharf Man. | | | 1. | 5. | Watchmen. | 5.6 | 1.67 | | | | | 220.62 | 420.85 | 43.27 | 20.63 | 19.22 | 34.98 | 25.25 | 14.0 | | 10.0 | .7 | 4.23 | 859.29 | Chisenhale St., Sandhills, and Collingwood Dock. | 2 | 1 | 2 | 2 | 25 | 2.5 | 23.87 | 58.37 | Labourers. | 25 | 2 | 2 | 25 | 2.5 | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23.87 | 58.37 | Various Tips. | 58.37 | Wavertree. | 2.5 | 23.87 | 58.37 | Labourers. | 23. |

LIVERPOOL DOGS' HOME AND CATS' SHELTER.

During the year 1919 the Liverpool Dogs' Home received from the Police and otherwise stray dogs to the total of 2,319. There were also brought by their owners to be destroyed 1,210 dogs, and in addition the Home continued its systematic collection of unwanted dogs from owners' houses, and thus brought in 681 more. The total claimed by owners and sold to good homes was 849, and the surplus, namely, diseased, dangerous and valueless animals, were destroyed, the number being 3,329. Dogs boarded for their owners numbered 356.

The Liverpool Cats' Shelters received, mainly at their Central and Branch Depots, 8,995 cats during 1919, of which 2,703 were diseased or injured. New homes were found for five and two were claimed, while the enormous balance, being entirely unwanted, were destroyed.

LIVERPOOL HORSES' REST, BROOMFIELD FARM, BROAD GREEN.

A grazing farm for the rest and recuperation of the working animals of humble owners, at which 57 Horses and Donkeys benefited during 1919.

THE LIVERPOOL ANIMALS' HOSPITAL, SHEIL PLACE.

The number of attendances recorded on horses, donkeys, dogs, cats, rabbits and birds of several kinds was 1,664. Of the cases traceable to their conclusion 77 per cent. were cured. Fifty-four accident cases were brought to the hospital by day or night. This work is done for the animals of those who cannot afford to engage a veterinary surgeon, and which would therefore in most cases go altogether without skilled attention but for the hospital.

The Animals' Ambulance responded to 115 calls during the year.

FOOD CONTROL WORK.

The large amount of time and attention given by the Officers of the Department in reference to the Food Controller's Orders, as well as the supervision of premises of firms engaged in carrying out Army contracts, may be judged by the following statistics, viz.:—

SUMMARY OF WORK PERFORMED IN CONNECTION WITH
THE VARIOUS FOOD ORDERS DURING THE YEAR 1919.

| | | | | | | |
|---|-----|-----|-----|-----|-----|-------------|
| Number of visits to shops | ... | ... | ... | ... | ... | 446,944 |
| Number found correct | ... | ... | ... | ... | ... | 431,336 |
| Number found incorrect (mainly the absence of Notices and
minor irregularities in respect of Food Registers) | ... | ... | ... | ... | ... | 15,558 |
| Number of complaints investigated | ... | ... | ... | ... | ... | 540 |
| Number of visits in connection with New Business
Applications | ... | ... | ... | ... | ... | 13,508 |
| Number of enquiries in respect of Ration Books | ... | ... | ... | ... | ... | 1,526 |
| Number of reports submitted to Executive Officer | ... | ... | ... | ... | ... | 5,502 |
| Number of enquiries in respect of Bread Supplies | ... | ... | ... | ... | ... | 3,496 |
| Number of visits under the Profiteering Act | ... | ... | ... | ... | ... | 316 |
| Total number of informations | ... | ... | ... | ... | ... | 713 |
| Number dismissed | ... | ... | ... | ... | ... | 30 |
| Number withdrawn | .. | ... | ... | ... | ... | 110 |
| Number of convictions | ... | ... | ... | ... | ... | 573 |
| Total amount of fines | ... | ... | ... | ... | ... | £2,811 10 0 |
| Total amount of costs | ... | ... | ... | ... | ... | £23 13 6 |
| Costs allowed | ... | ... | ... | ... | ... | £105 0 0 |

CELLAR DWELLINGS.

On the 31st December, 1912, there were 1,614 cellars let as separate dwellings.

All of the cellars have been re-visited with the following results:—

| | | | | | |
|---|-----|-----|-----|-----|-----|
| Number at present unoccupied | ... | ... | ... | ... | 790 |
| Number occupied as kitchens or wash-cellars | ... | ... | ... | ... | 390 |
| Number occupied as a kitchen and separately let with the
front parlour | ... | ... | ... | ... | 111 |
| Number permanently closed | ... | ... | ... | ... | 202 |
| Number demolished | ... | ... | ... | ... | 9 |
| Number of cellars occupied as separate dwellings,
1st May, 1920 | ... | ... | ... | ... | 112 |

HOUSING.

Between the years 1865 and 1904, approximately 6,300 houses unfit for human habitation were dealt with under the Local Acts.

Operations under the Housing of the Working Classes Act were commenced in 1901, and up to the present 2,454 insanitary houses have been dealt with under that Act.

No action has been taken since the year 1915, owing to war conditions, but the Housing Committee have recently given careful consideration to the pre-war schemes for demolition and rebuilding, which had been put forward as well as to those insanitary areas still existing in various parts of the City which have not yet been reported on, or included in any proposed scheme.

The areas may therefore be divided into two sections, as follows:—

RECONSTRUCTION OF UNHEALTHY AREAS.

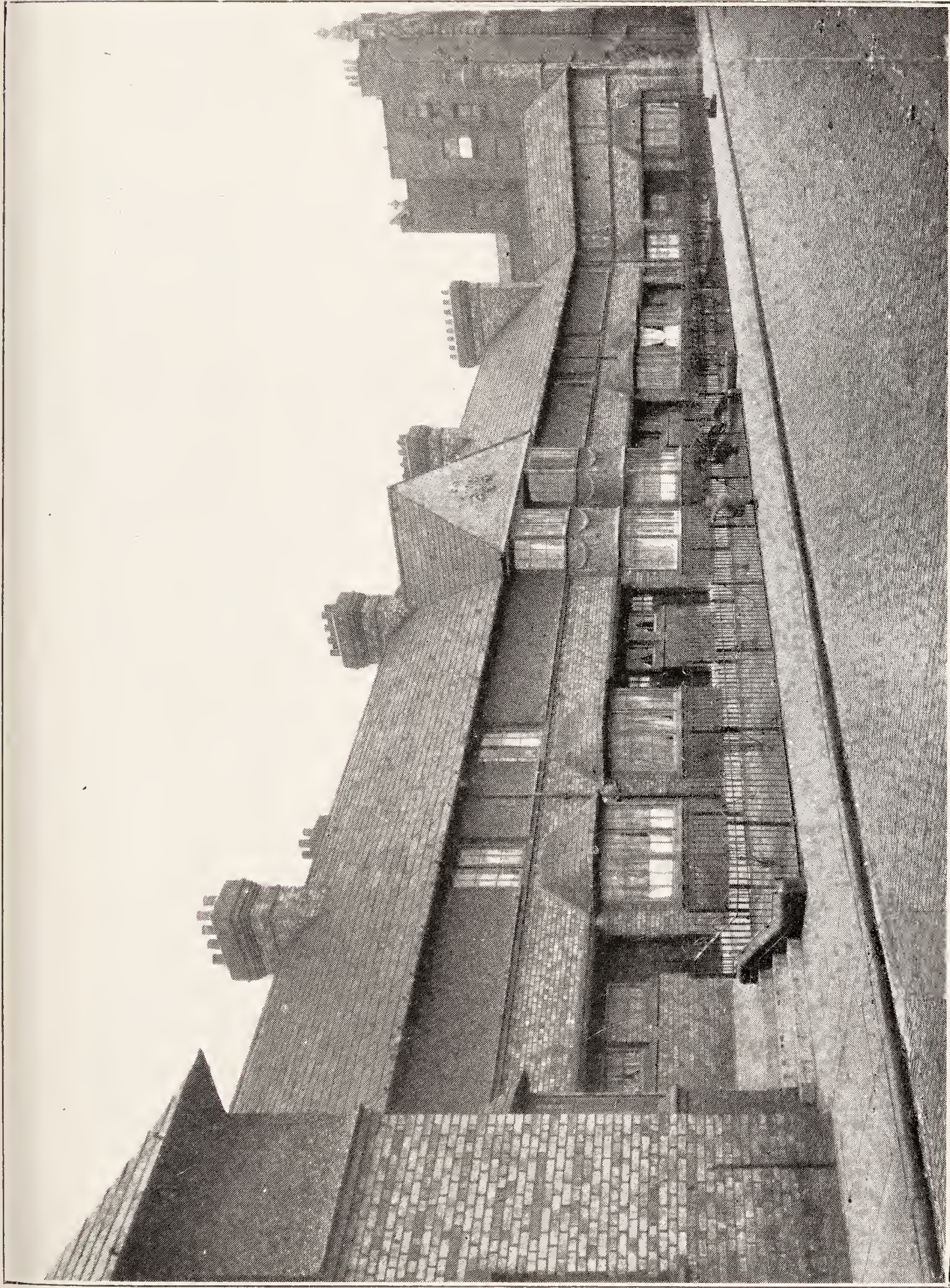
“ A ”—Unhealthy Areas previously scheduled but not finally disposed of, and

“ B ”—Unhealthy Areas in respect to which no proceedings have yet been taken.

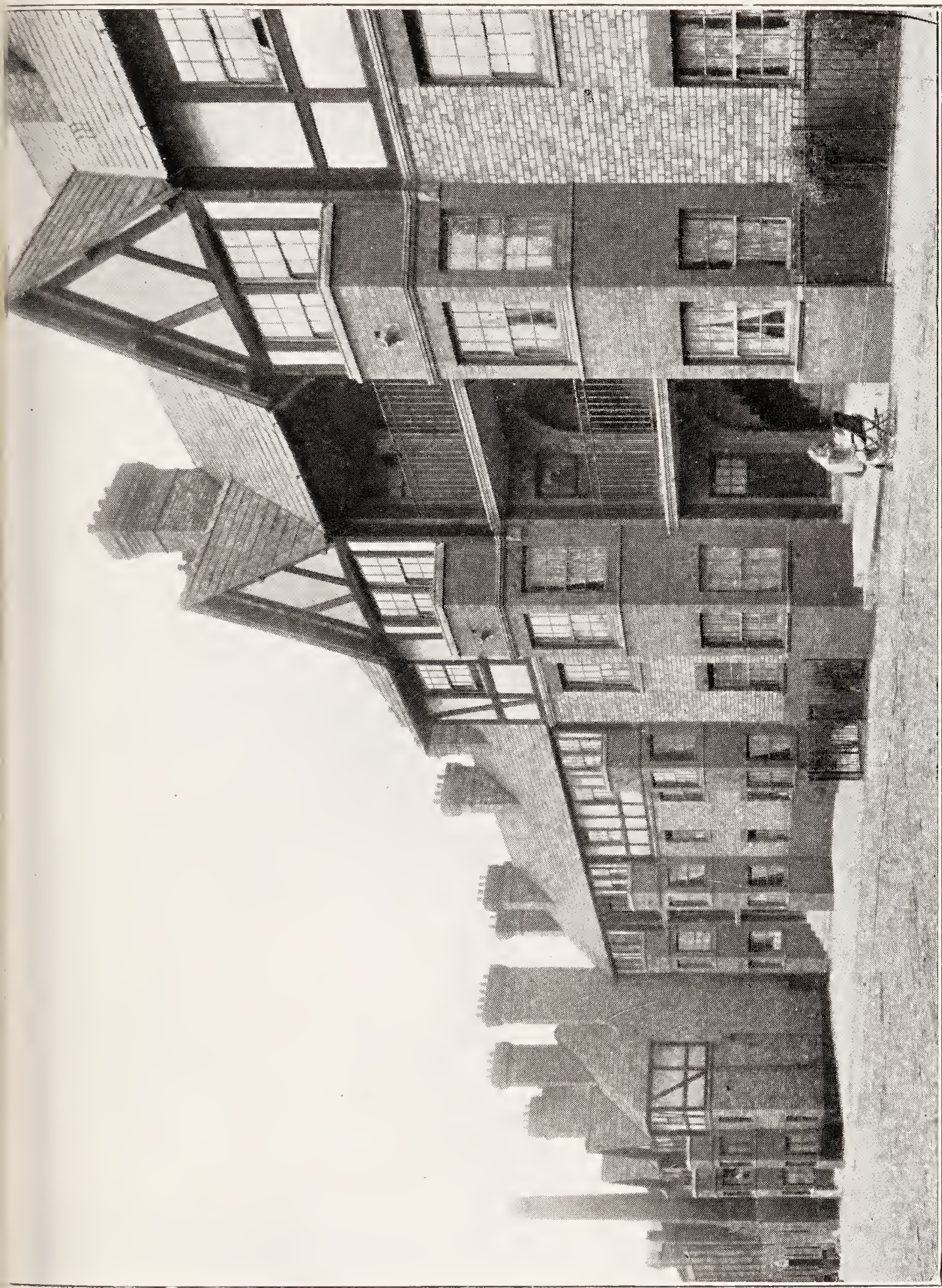
Under the first heading “ A ” the following Areas are comprised, viz.:—

1. Beau Street.
2. Prince Edwin Street.
3. Rathbone Street.
4. Mason Street.
5. Saltney Street and Dublin Street.
6. Blenheim Street.
7. Penrhyn Street.

These Unhealthy Areas were engaging the attention of the Housing Committee prior to the outbreak of War, and but for the War there is no reason to doubt that the whole of them would have been finally dealt

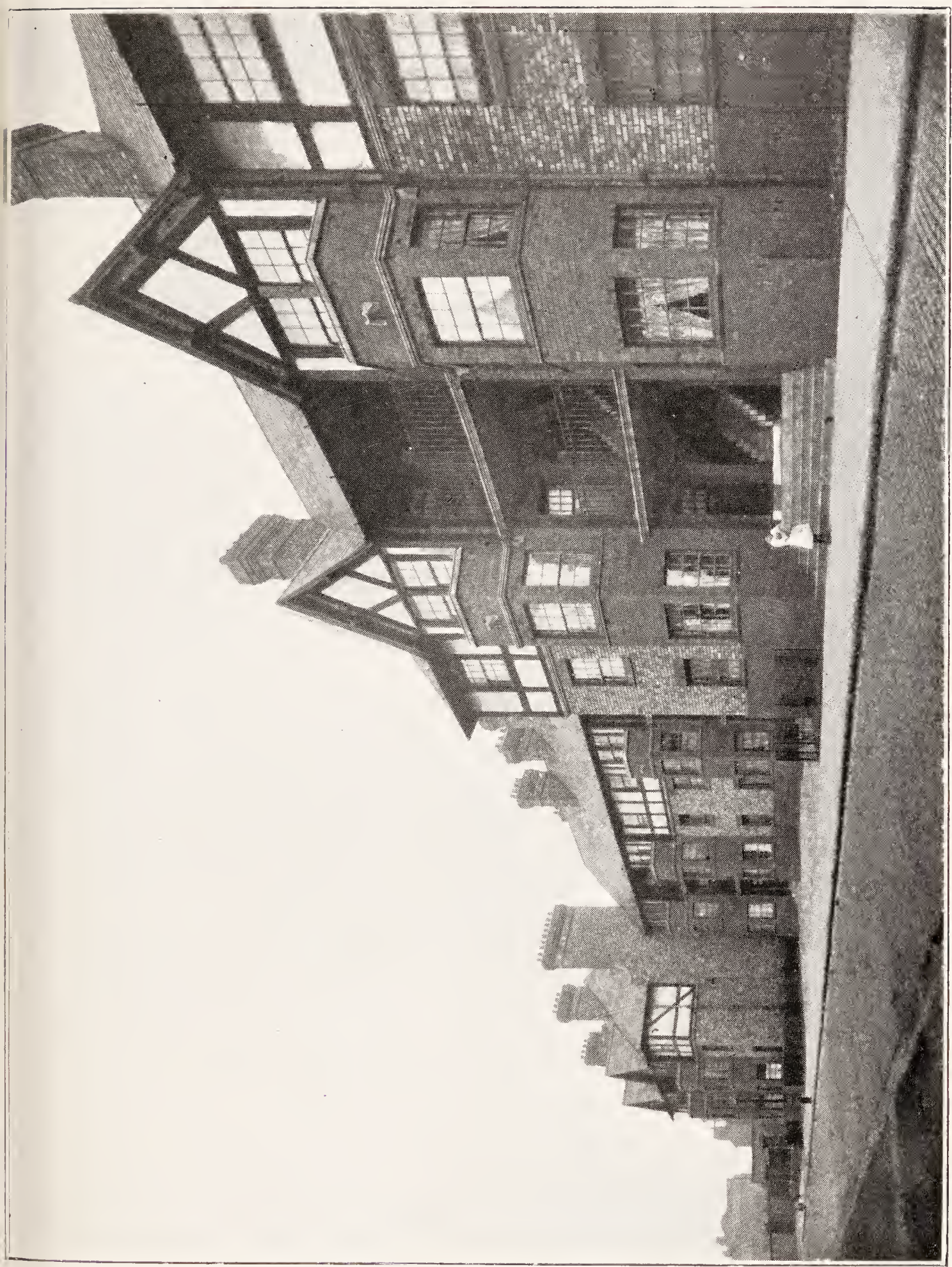


NEW DWELLINGS, SPARLING STREET.



NEW DWELLINGS, JORDAN STREET.





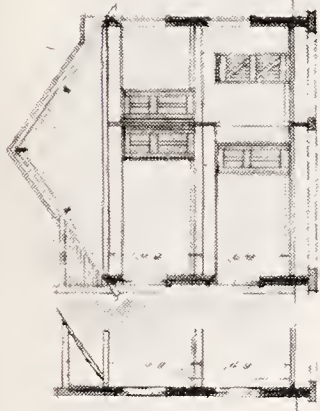
NEW DWELLINGS, GORE STREET



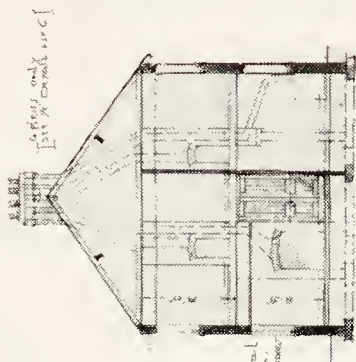
CITY OF LIVERPOOL

HOUSING OF THE WORKING CLASSES

PENRHYN STREET AREA



SECTION A-A

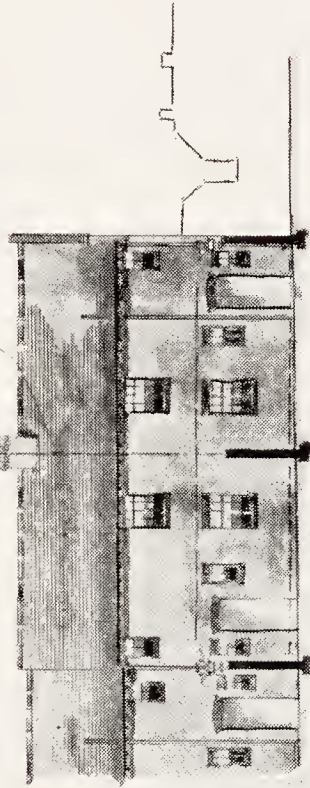


SECTION B-B



END ELEVATION

GLASS STAIRS
15' 0" x 10' 0"

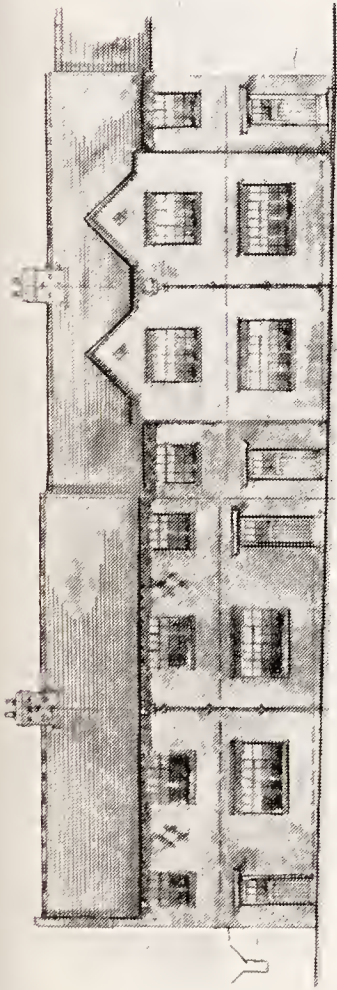


BACK ELEVATION

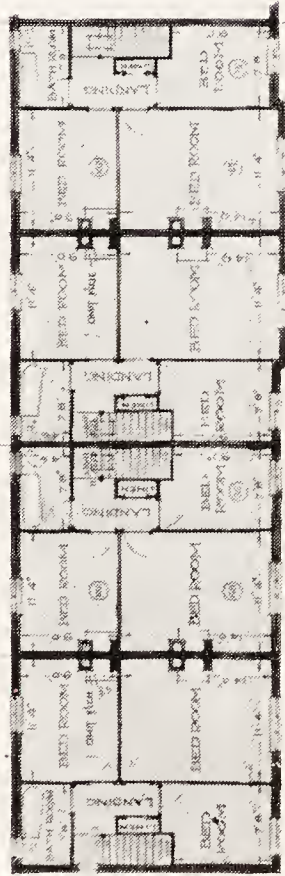
Scale Eight to One Inch

F. E. G. Budge, Architect
Director of Housing
Liverpool

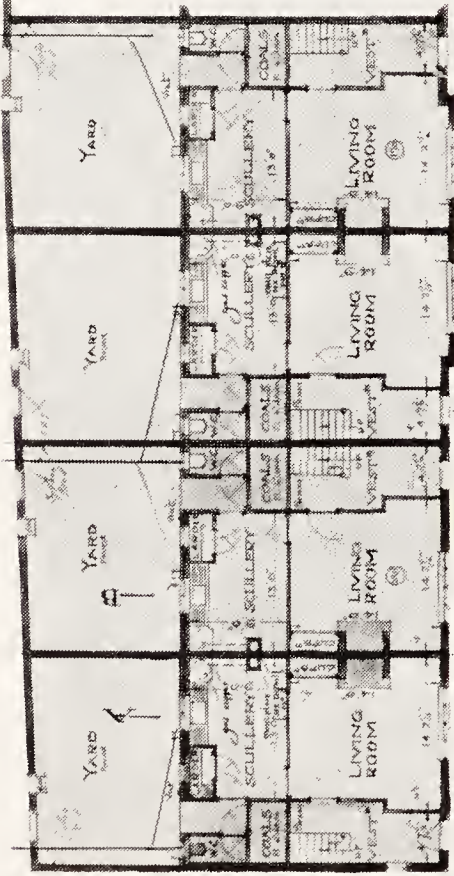
Sept 20 1909



ELEVATION TO PENRHYN STREET



FIRST FLOOR PLAN



GROUND FLOOR PLAN



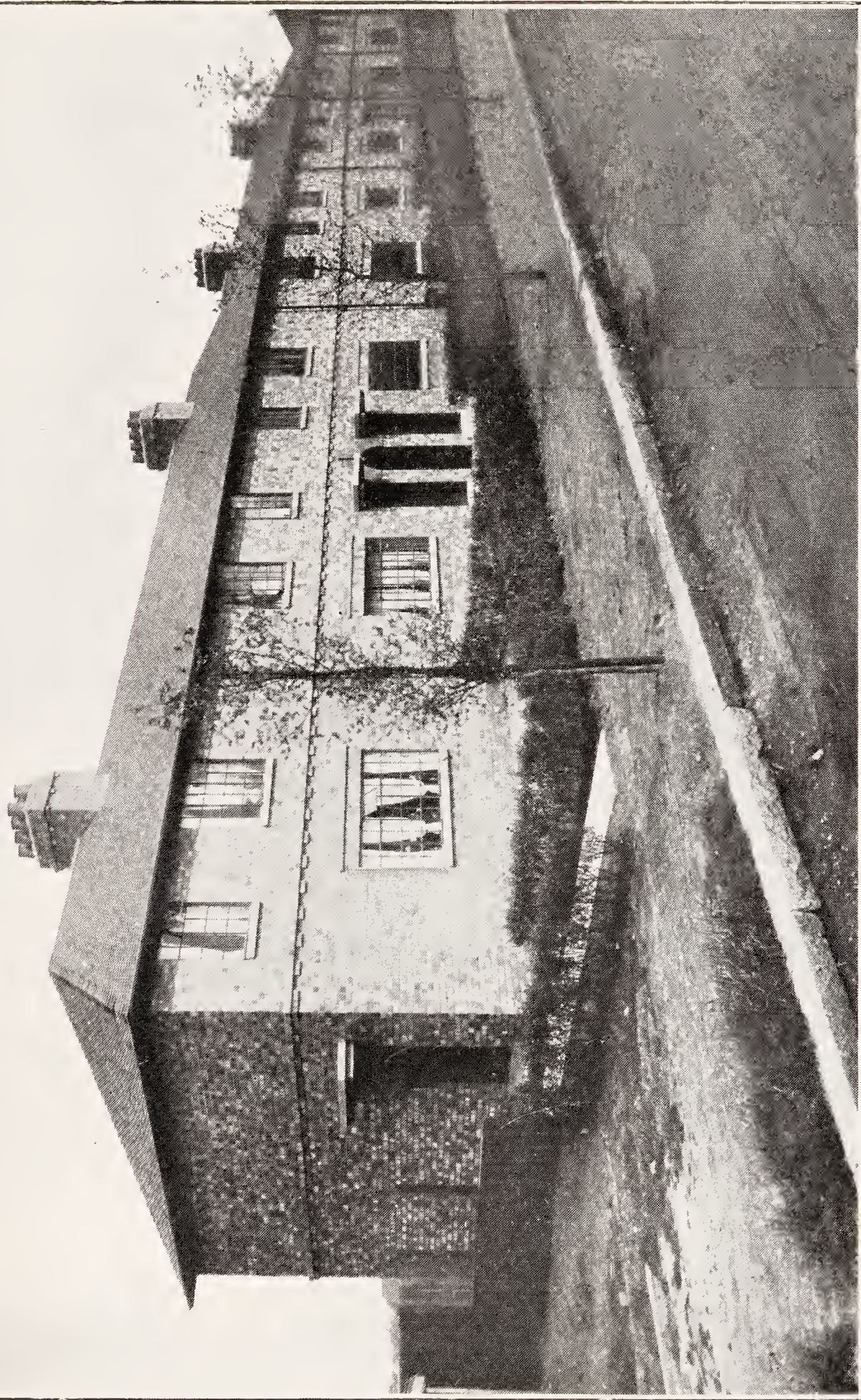


HOUSING SCHEME
LARK HILL & LISBURN FARM ESTATES:
PRELIMINARY SKETCH LAYOUT PLAN:



F. E. G. BADGER, Assoc. M. Inst. C.E.
DIRECTOR OF HOUSING
MUNICIPAL BUILDINGS
LIVERPOOL 18 JULY 1929





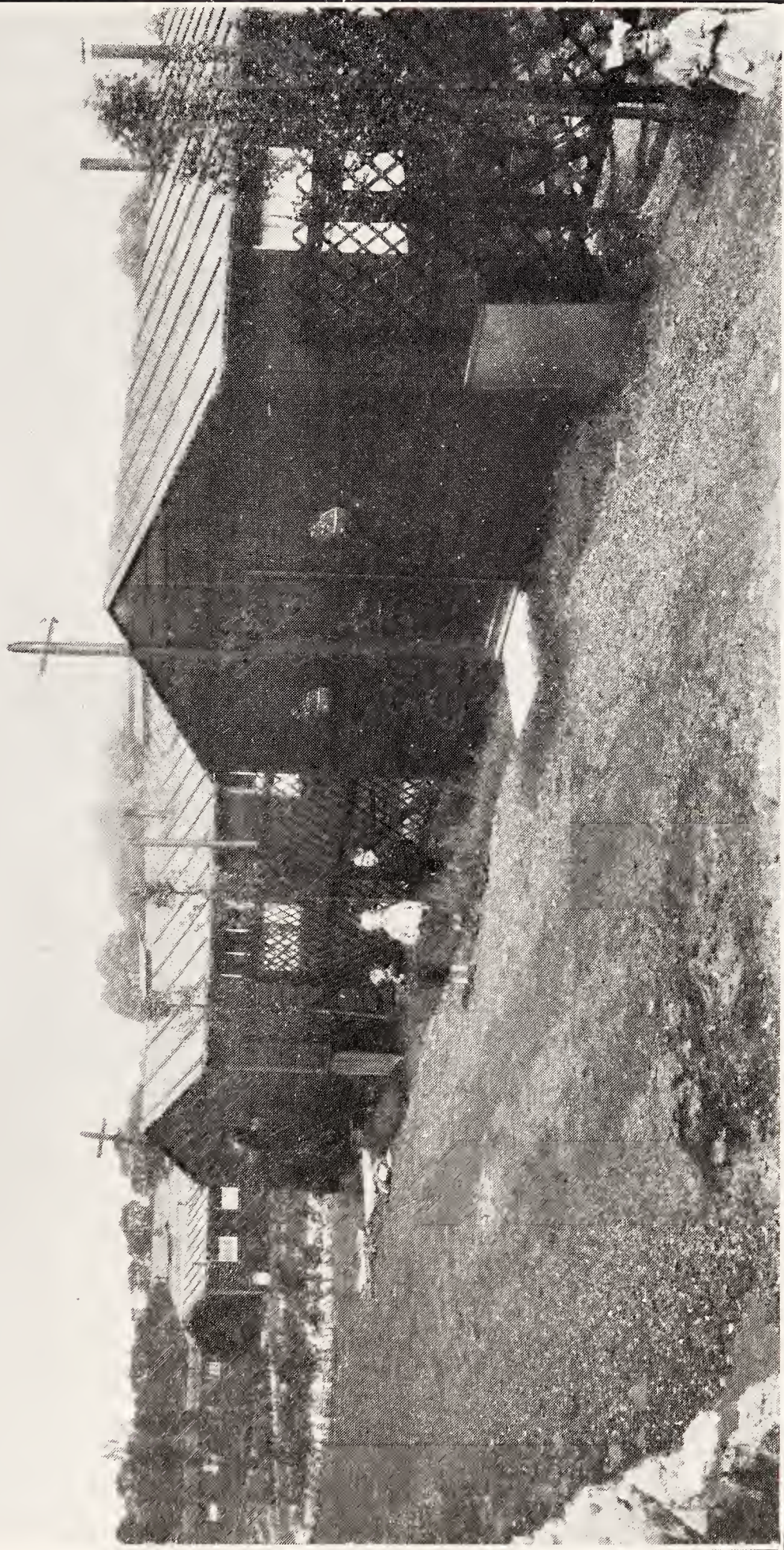
LARKHILL ESTATE,—CLUBMOOR.

The first houses to be completed under the State Aided Housing Scheme, occupied 7th June, 1920.



KNOTTY ASH CAMP AREA.

Conversion of Army Huts into Temporary Dwellings forming part of the State Aided Housing Schemes,
occupied 12th December, 1919.



KNOTTY ASH CAMP AREA

Conversion of Army Huts into Temporary Dwellings forming part of the State Aided Housing Schemes,
occupied 12th December, 1919.



with. Since the conclusion of the War, certain proposals affecting these Areas have come to the front which may facilitate or modify the methods originally proposed for dealing with them.

The present position in respect to these Unhealthy Areas is as follows :

| Date of Representation. | | Area. | Original Population. | No. of existing Houses. | No. of Houses occupied. |
|-------------------------|--|-------------------------------------|----------------------|-------------------------|-------------------------|
| 1 | March, 1907 | Beau Street | 532 | 128 | 2 |
| 2 | June, 1912 | Prince Edwin Street | 737 | 170 | 107 |
| 3 | June, 1912 | Rathbone Street | 445 | 125 | 21 |
| 4 | June, 1912 | Mason Street | 301 | 91 | 9 |
| 5 | June, 1912
Liverpool Housing
Confirmation
Order, 1914 | Saltney Street and
Dublin Street | 558 | 124 | 108 |
| 6 | June, 1912 | Blenheim Street | 230 | 48 | 48 |
| 7 | June, 1912 | Penrhyn Street | 488 | 116 | 26 |
| | | | 3,291 | 802 | 321 |

The obvious difficulty which confronts the Committee in regard to the majority of these Unhealthy Areas is the question of replacing any persons who may be dispossessed, and this in effect limits for the present the activities of the Committee to districts which are already wholly derelict and from which the whole of the inhabitants have gone.

(1 and 2) The Beau Street Area and the Prince Edwin Street Area come largely within this category.

With regard to Beau Street, the whole of which has been acquired, final adjustments with the Reconstruction Committee have not yet been settled, but with regard to Prince Edwin Street, the City Council, on the recommendation of the Reconstruction Committee, have now authorised a comprehensive scheme. There is no reason, therefore, why the

erection of dwellings on the Prince Edwin Street site should not be proceeded with under such conditions that the derelict portions may be dealt with first, and so afford accommodation for tenants still resident in the scheduled area, the site of whose dwellings could be dealt with so soon as the new dwellings are ready for occupation. The Medical Officer is unaware of any reason why the Beau Street Site should not then be proceeded with upon lines conformable to the general scheme which is applicable to the Prince Edwin Street area.

(3) The propositions in regard to Rathbone Street Area are not yet finally adjusted.

(4) In regard to Mason Street Area the plans for the rebuilding have been approved by the City Council and tenders accepted for the erection of 28 self-contained houses.

(5) The number of occupied houses in Saltney Street and Dublin Street preclude further action for the present.

(6) Plans have also been approved and tenders accepted for the erection of 18 Cottage Flats on the Blenheim Street Area.

(7) Penrhyn Street is at a similar stage, plans having been approved and tenders accepted for the erection of 26 self-contained houses, and when these and the Blenheim Street houses are completed, the whole of the Scheduled Area in Blenheim Street can be dealt with.

WOOLTON DISTRICT.—The Corporation are also under an obligation to carry out a Housing Scheme in the Added Area of Woolton, and but for the War, this obligation would have been fulfilled.

In the Liverpool (Extension) Order, 1913, an Agreement with the Much Woolton Council, dated March 4th, 1913, is confirmed, which contains the following clause:—

“ At least one-third of the Area bounded by Vale Road, Castle Street, Quarry Street, and the Woolton Gas Works, in the Added Area, shall be included in a Scheme of Improvement to be carried out by the Corporation within six years from the commencement of the Order, viz., November 9th, 1913.”

It is proposed to erect 290 self-contained houses on land fronting Long Lane, Garston, which is in close proximity to the Woolton Insanitary Area. This proposal, when given effect to, will greatly facilitate the fulfilment of the obligation in regard to dealing with the Woolton Insanitary Area, since it will afford accommodation for those who will necessarily be displaced pending the reconstruction of that Area.

“ B ”—Unhealthy Areas in respect to which no proceedings have yet been taken :—

1. Bancroft Street.
2. Burlington Street.
3. Comus Street.
4. Gomer Street.
5. Great Richmond Street.
6. Hopwood Street.
7. Lawrence Street.
8. Leeds Street.
9. Mount Vernon View.
10. Rankin Street.
11. Roscoe Lane.
12. Slade Street.
13. Whitley Street.

Approximately 2,585 houses still remain to be dealt with. These are mainly of the back-to-back type, the majority being court houses. Of this number approximately 930 houses are so grouped together as to be suitable for being dealt with as an “ Unhealthy Area ”; the remainder would require to be dealt with by Closing Orders when houses are available for the dispossessed.

The groups of houses indicated on the accompanying table are suitable for being dealt with as “ Unhealthy Areas ” under Part 1 of the Housing of the Working Classes Act, 1909. In each case details are submitted shewing the population, total number of houses, number of insanitary houses, together with the mortality rates.

It will be seen that in some of these areas the General Death Rate and the Phthisis Death Rate are twice as high as the City rates.

| Area. | Total Area :
sq. yds. | Popula-
tion. | Total
No. of
Houses. | Number
Insani-
tary. | Number
Sub-let. | AVERAGE DEATH
RATE PER 1,000
FOR SIX YEARS,
1914-1919. | | Infant
Mor-
tality
Rate
per 1,000
Births,
1914-
1919. | B
R
p
1,
19
19 |
|---|--------------------------|------------------|----------------------------|----------------------------|--------------------|---|-------------------|--|-------------------------------|
| | | | | | | General
Rate. | Phthisis
Rate. | | |
| Bancroft Street | 2,970 | 401 | 82 | 69 | 6 | 23·27 | 2·49 | 112·90 | 28 |
| Burlington Street | 5,800 | 951 | 190 | 184 | 47 | 33·12 | 2·97 | 181·39 | 37 |
| Comus Street | 1,430 | 189 | 71 | 42 | 9 | 37·91 | 3·52 | 200·0 | 38 |
| Gomer Street | 2,320 | 320 | 73 | 28 | 6 | 40·10 | 3·12 | 301·20 | 43 |
| Great Richmond Street | 1,420 | 155 | 34 | 31 | 5 | 46·23 | 2·15 | 413·79 | 3 |
| Hopwood Street | 3,650 | 306 | 68 | 55 | 18 | 49·18 | 2·72 | 287·50 | 4 |
| Lawrence Street | 2,830 | 329 | 65 | 63 | 11 | 21·28 | 0·50 | 162·16 | 3 |
| Leeds Street | 2,376 | 167 | 34 | 31 | 6 | 43·91 | 3·99 | 250·0 | 3 |
| Mount Vernon View ... | 4,170 | 306 | 56 | 36 | 3 | 20·69 | 2·72 | 181·81 | 2 |
| Rankin Street | 4,126 | 392 | 87 | 44 | 6 | 26·39 | 1·7 | 132·65 | 4 |
| Roscoe Lane | 5,550 | 531 | 98 | 89 | 17 | 27·30 | 1·25 | 191·91 | 1 |
| Slade Street | 5,933 | 459 | 104 | 30 | 7 | 30·50 | 2·17 | 171·42 | 1 |
| Whitley Street | 4,645 | 611 | 118 | 101 | 26 | 35·18 | 2·18 | 263·15 | 1 |
| The Statistics for the City, and for the Corporation Dwellings during
the same period, are as follows :— | | | | | | | | | |
| City | | | | | | 18·24 | 1·61 | 124·0 | 2 |
| Corporation Dwellings | | | | | | 26·25 | 1·79 | 165·9 | 6 |

With regard to the Bancroft Street Area it is anticipated that the requirements of adjacent works will lead to the demolition of all the insanitary houses, but the present difficulty of obtaining dwellings has delayed operations.

All the insanitary houses in Comus Street Area are Corporation leasehold, and with the exception of approximately 60 square yards, the whole of the area is in possession of the Corporation.

The City Council have already decided to purchase the greater portion of the Hopwood Street Area, and when suitable houses are available the work on this area can be proceeded with.

It was anticipated that the Sutton Trustees might deal with the Burlington Street and Slade Street Areas, but they prefer to use the money at their disposal in the provision of cottages on Garden City lines.

It is most important that the preliminary steps should be taken in respect to the Unhealthy Areas "B" which have not yet been dealt with, in order to obtain the full benefit of the financial assistance which will be given by the Ministry of Health towards the reconstruction of Unhealthy Areas under Part 1 of the Housing of the Working Classes Act.

This procedure will not involve further action until dwellings are available for the dispossessed.

NEW DWELLINGS.

The Housing Committee have entered into contracts for the erection of the following dwelling-houses.

| | |
|--------------------------------------|-------|
| Elms House Estate | 232 |
| Lark Hill Estate and Clubmoor | 2,730 |
| Edge Lane Drive Estate | 600 |
| Fazakerley Estate | 186 |
| Allerton | 2,000 |
| | <hr/> |
| | 5,748 |
| | <hr/> |

The houses on the Elms House Estate are the non-parlour type, containing living room, scullery and water closet on ground floor, and three bedrooms and bathroom on the first floor.

Two-thirds of the houses to be built on the remaining estates will contain a living room, parlour and scullery on the ground floor; also three bedrooms, bath and water closet on the first floor.

Four hundred houses are to be erected by private enterprise in the southern and eastern portion of the City.

In addition to the above, 472 military huts have been converted for temporary occupation as dwellings on a site at Knotty Ash formerly used as a military camp.

(See photographs and plans.)

EMPTY HOUSES.

According to a return submitted by the Head Constable, the number of empty houses in Liverpool at the end of 1919 at rents of 5s. and under per week was 40, and over 5s. and under 8s. per week 55, making a total of 95, of which 86 were insanitary. For the previous year the figure was 51, which number had been reduced from 4,895 in 1910, 1,394 in 1913, and 1,013 in 1914.

The premises returned as unoccupied were revisited in March, 1920, and it was found that 6 of the then unoccupied houses were occupied.

Of the 89 houses unoccupied, 84 are situated in Unhealthy Areas.

RE-HOUSING.

The number of dwellings provided by the Corporation up to the present is 2,863, their situations and dates of opening are as follows:—

| Situation. | Date
Opened. | Number of
Tenements. |
|---------------------------------------|--------------------------|-------------------------|
| St. Martin's Cottages | 1869 | 124 |
| Victoria Square | 1885 | 270 |
| Juvenal Dwellings | 1891 | 101 |
| Arley Street | { 1897 }
{ (1902/3) } | 46 |
| Gildart's Gardens | { 1897 }
{ 1904 } | 229 |
| Dryden Street | 1901 | 181 |
| Kempston Street | 1902 | 79 |
| Kew Street | 1902/3 | 114 |
| Adlington Street Area | 1902/3 | 272 |
| Stanhope Cottages | 1904 | 60 |
| Mill Street | 1904 | 55 |
| Hornby Street | { 1904 }
{ 1906/7 } | 449 |
| Clive Street and Shelley Street | 1905 | 84 |
| Eldon Street | 1905 | 12 |
| Upper Mann Street | 1905/6 | 87 |
| Combermere Street | 1909 | 49 |
| Burlington Street | 1910 | 114 |
| Saltney Street | 1911 | 48 |
| Grafton Street | 1911 | 60 |
| Bevington Street Area | 1912 | 218 |
| Northumberland Street Area | 1913 | 68 |
| St. Anne Street Area | 1914 | 72 |
| Gore Street | 1916 | 24 |
| Jordan Street | 1916 | 31 |
| Sparling Street | 1916 | 16 |
| Total | — | 2,863 |

DESCRIPTION OF TENEMENTS.

| | | | | | |
|------------------------------|-----|-----|-----|-----|-------------------|
| Number of 1 roomed dwellings | ... | ... | ... | ... | 193 |
| Number of 2 roomed dwellings | ... | ... | ... | ... | 1,283 |
| Number of 3 roomed dwellings | ... | ... | ... | ... | 1,105 |
| Number of 4 roomed dwellings | ... | ... | ... | ... | 282 |
| | | | | | <hr/> 2,863 <hr/> |

| | | |
|--|-----|----|
| Number of self-contained dwellings (included in above) | ... | 79 |
| Number of shops | ... | 32 |

RENTALS.

The rentals of the tenements vary from 1s. 9d. to 5s. 6d., and those of the self-contained cottages from 6s. to 7s. per week.

CORPORATION TENEMENTS.

VITAL STATISTICS.

Comparative Table.

ALL DWELLINGS.

| | | | | |
|------------------|-----|-----|-----|--------|
| Population, 1914 | ... | ... | ... | 10,545 |
| Population, 1915 | ... | ... | ... | 11,393 |
| Population, 1916 | ... | ... | ... | 11,334 |
| Population, 1917 | ... | ... | ... | 11,897 |
| Population, 1918 | ... | ... | ... | 12,139 |
| Population, 1919 | .. | ... | ... | 12,286 |

| | 1914. | | 1915. | | 1916. | | 1917. | | 1918. | | 1919. | |
|---------------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|
| | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. |
| Births | 601 | 56.9 | 524 | 45.9 | 462 | 40.7 | 462 | 38.8 | 424 | 34.9 | 438 | 35.6 |
| Deaths | 304 | 28.8 | 307 | 26.9 | 327 | 28.8 | 259 | 21.7 | 358 | 29.4 | 262 | 21.3 |
| Infantile Mortality | 106 | 176.3 | 95 | 181.2 | 75 | 162.3 | 70 | 151.5 | 73 | 172.1 | 62 | 141.5 |
| Deaths under 1 year ..... | ..... | per 1,000 Births. 1.2 | 20 | per 1,000 Births. 1.7 | 22 | per 1,000 Births. 1.9 | 18 | per 1,000 Births. 1.5 | 27 | per 1,000 Births. 2.2 | 24 | per 1,000 Births. 1.9 |
| Phthisis | 13 | 1.2 | 20 | 1.7 | 22 | 1.9 | 18 | 1.5 | 27 | 2.2 | 24 | 1.9 |

CORPORATION TENEMENTS.

VITAL STATISTICS.

Comparative Table.

RESTRICTED DWELLINGS.

| | | | | |
|------------------|-----|-----|-----|--------|
| Population, 1914 | ... | ... | ... | 8,716 |
| Population, 1915 | ... | ... | ... | 9,511 |
| Population, 1916 | ... | ... | ... | 9,461 |
| Population, 1917 | ... | ... | ... | 10,027 |
| Population, 1918 | ... | ... | ... | 10,235 |
| Population, 1919 | ... | ... | ... | 10,324 |

| | 1914. | | 1915. | | 1916. | | 1917. | | 1918. | | 1919. | |
|---------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|
| | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. |
| Births | 490 | 56.2 | 432 | 45.4 | 378 | 39.9 | 380 | 37.8 | 357 | 34.8 | 371 | 35.9 |
| Deaths | 270 | 30.8 | 267 | 28.0 | 277 | 29.2 | 226 | 22.5 | 308 | 30.09 | 220 | 21.3 |
| Infantile Mortality | 93 | 189.7 per 1,000 Births. | 82 | 189.8 per 1,000 Births. | 60 | 158.7 per 1,000 Births. | 62 | 163.1 per 1,000 Births. | 63 | 176.4 per 1,000 Births. | 52 | 140.1 per 1,000 Births. |
| Deaths under 1 year | | | | | | | | | | | | |
| Phthisis | 13 | 1.49 | 17 | 1.7 | 21 | 2.2 | 16 | 1.5 | 23 | 2.2 | 20 | 1.9 |

CORPORATION TENEMENTS.

VITAL STATISTICS.

Comparative Table.

UNRESTRICTED DWELLINGS.

| | | | | |
|------------------|-----|-----|-----|-------|
| Population, 1914 | ... | ... | ... | 1,829 |
| Population, 1915 | ... | ... | ... | 1,882 |
| Population, 1916 | ... | ... | ... | 1,873 |
| Population, 1917 | ... | ... | ... | 1,870 |
| Population, 1918 | ... | ... | ... | 1,904 |
| Population, 1919 | ... | ... | ... | 1,962 |

| | 1914. | | 1915. | | 1916. | | 1917. | | 1918. | | 1919. | |
|---------------------------|---------------|-------------------------|---------------|-------------------------|---------------|-------------------------|---------------|------------------------|---------------|-------------------------|---------------|-------------------------|
| | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. | Total number. | Rate per 1,000. |
| Births | 111 | 60·6 | 92 | 48·8 | 84 | 44·8 | 82 | 43·8 | 67 | 35·1 | 67 | 34·1 |
| Deaths | 34 | 18·5 | 40 | 21·2 | 50 | 26·6 | 33 | 17·6 | 50 | 26·2 | 42 | 21·4 |
| Infantile Mortality | 14 | 126·1 per 1,000 Births. | 13 | 141·3 per 1,000 Births. | 15 | 178·5 per 1,000 Births. | 8 | 97·5 per 1,000 Births. | 10 | 149·2 per 1,000 Births. | 10 | 149·2 per 1,000 Births. |
| Deaths under 1 year | | | | | | | | | | | | |
| Phthisis | Nil. | Nil. | 3 | 1·5 | 1 | 0·5 | 2 | 1·0 | 4 | 2·1 | 4 | 2·03 |

CORPORATION TENEMENTS.

VITAL STATISTICS.

ALL DWELLINGS.

Statistics as to Birth Rate and Infantile Mortality Rate in Corporation Dwellings as a whole for the seven years 1913 to 1919:—

| Year | Birth
Rate per 1,000
of population. | Infantile Mortality.
Deaths under 1 year
per 1,000 births. |
|-----------|---|--|
| 1913..... | 57·7 | 145·7 |
| 1914..... | 56·9 | 176·3 |
| 1915..... | 45·9 | 181·2 |
| 1916..... | 46·7 | 162·3 |
| 1917..... | 38·8 | 151·5 |
| 1918..... | 34·9 | 172·1 |
| 1919..... | 35·6 | 141·5 |

CORPORATION TENEMENTS.

ALL DWELLINGS.

| | | |
|---|--------|-------|
| Average Birth Rate for the 7 years 1913 to 1919 | ... | 45·2 |
| Average Death Rate for the 7 years 1913 to 1919 | ... | 26·4 |
| Average Infantile Mortality Rate (under 1 year) | | |
| 1913 to 1919 | ... .. | 161·5 |
| Average Phthisis Death Rate for the 7 years 1913 to | | |
| 1919 | ... .. | 1·8 |

CORPORATION TENEMENTS.

From time to time the Lodging House Inspectors visit Corporation Tenements for the purpose of ascertaining if overcrowding or sub-letting exist. During the past eleven years 346 tenements have been visited at night, with the result that in 201 cases the tenements were found occupied contrary to the Committee's regulations. Many of these infringements would have been avoided had the inmates been differently distributed in the sleeping rooms, a condition quite easily complied with.

During the year the Director of Housing referred 10 Corporation tenements to the Medical Officer's Department for night visitation, as against 7 referred during the year 1918.

Night visits were paid to these tenements, with the result that 3 tenements were found to be sub-let and overcrowded. There was also 1 tenement found sub-let but not overcrowded, and 1 tenement found sub-let, overcrowded, and indecently occupied.

During the year, 10 cases of improper or irregular occupation were found in 5 Corporation tenements out of 10 visited, compared with 7 cases in 4 tenements out of 7 visited the preceding year.

In December, 1885, the Local Government Board sanctioned Bye-laws which provided for 350 cubic feet per adult (two children below 12 years of age to count as one adult). In January, 1901, the Bye-laws were further amended, requiring 400 cubic feet per adult, and 200 cubic feet per child below 10 years of age, for sleeping accommodation.

These requirements in respect to cubic space have been fully complied with, and the table on page 103 indicates a steady decline in overcrowding.

Applications for Corporation Dwellings have been numerous and urgent. One contributory cause has been that, owing to better wages, many tenants are no longer willing to sub-let their houses. During the year the Director of Housing referred for investigation 206 applications, the applicants stating they were overcrowded. Of these, 126 were found not overcrowded; 61 were found overcrowded, but the difficulty was remedied by rearranging the lodgers; 6 were found overcrowded; and in 13 cases the applicants had given incorrect addresses.

HOUSING OF WORKING CLASSES ACTS, 1890-1909.

During the years 1916, 1917, 1918 and 1919, owing to conditions created by the war, no proceedings were taken under the above Act.

The approximate number of insanitary houses existing on December 31st, 1919 (including added areas), were as follows:—

| | | | | | |
|---------------------------------|-----|-----|-----|-----|-------|
| No. of Courts | ... | ... | ... | ... | 306 |
| No. of Court Houses | ... | ... | ... | ... | 1,653 |
| Approximate No. of Front Houses | ... | ... | ... | ... | 932 |

Statement shewing the number of houses dealt with during the year **1915** and indicating the action taken:—

FRONT HOUSES.

| Total No. of Front Houses dealt with during the year 1915. | No. of Houses. | Demo-lished. | Ren-dered Sanitary | Closed. | Occupied |
|--|----------------|--------------|--------------------|---------|----------|
| " A " By Closing Orders | 20 | 7 | 4 | 9 | — |
| " B " By Schemes..... | — | — | — | — | — |
| " C " Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation | — | — | — | — | — |
| " D " Dealt with by owners for private improvements | — | — | — | — | — |
| Total..... | 20 | 7 | 4 | 9 | — |

COURT HOUSES.

| How Dealt With. | Total No. of Houses dealt with. | Demo-lished. | Ren-dered Sanitary | Closed. | Occupied |
|--|---------------------------------|--------------|--------------------|---------|----------|
| " A " By Closing Orders | 29 | 27 | — | 2 | — |
| " B " By Schemes | — | — | — | — | — |
| " C " Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation | — | — | — | — | — |
| " D " Dealt with by owners for private improvements | 11 | 11 | — | — | — |
| Total No. deal with during 1915... | 40 | 38 | — | 2 | — |

Statement showing the number of houses dealt with during the year 1914, and indicating the action taken; -

FRONT HOUSES.

| Total No. of Front Houses dealt with during the year 1914.* | No. of Houses. | Demo-lished. | Ren-dered Sanitary | Closed. | Occupied. |
|---|----------------|--------------|--------------------|---------|-----------|
| " A " By Closing Orders | 57 | 41 | 10 | 6 | — |
| " B " By Schemes | — | — | — | — | — |
| " C " Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation..... | — | — | — | — | — |
| " D " Dealt with by owners for private improvements | 4 | 4 | — | — | — |
| Total | 61 | 45 | 10 | 6 | — |

COURT HOUSES.

| How dealt with. | Total No. of Houses dealt with. | Demo-lished. | Ren-dered Sanitary | Closed. | Occupied. |
|--|---------------------------------|--------------|--------------------|---------|-----------|
| " A " By Closing Orders | 149 | 121 | 11 | 17 | — |
| " B " By Schemes | — | — | — | — | — |
| " C " Alterations and improvements authorised on circular letter, or on the action of the Health Committee in asking for more closet accommodation | — | — | — | — | — |
| " D " Dealt with by owners for private improvements | 26 | 26 | — | — | — |
| Total No. dealt with during 1914... | 175 | 147 | 11 | 17 | — |

Statement showing the total number of houses dealt with during the Years 1906 to 1919 inclusive.

FRONT HOUSES.

| Year. | Total
No. of
Houses
dealt
with. | Demo-
lished. | Ren-
dered
Sanitary. | In Schemes
but still
Occupied. | Closed. | Occu-
pied. |
|-------------|---|------------------|----------------------------|--------------------------------------|---------|----------------|
| 1906 | 193 | 120 | 60 | — | 13 | — |
| 1907 | 113 | 49 | 64 | — | — | — |
| 1908 | 46 | 17 | 29 | — | — | — |
| 1909 | 28 | 11 | 17 | — | — | — |
| 1910 | 33 | 33 | — | — | — | — |
| 1911 | 31 | 7 | 24 | — | — | — |
| 1912 | 87 | 28 | — | 38 | 21 | — |
| 1913 | 20 | 15 | 5 | — | — | — |
| 1914 | 61 | 45 | 10 | — | 6 | — |
| 1915 | 20 | 7 | 4 | — | 9 | — |
| 1916 | — | — | — | — | — | — |
| 1917 | — | — | — | — | — | — |
| 1918 | — | — | — | — | — | — |
| 1919 | — | — | — | — | — | — |
| Total | 632 | 332 | 213 | 38 | 49 | — |

COURT HOUSES.

| Year. | Total
No. of
Houses
dealt
with. | Demo-
lished. | Ren-
dered
Sanitary. | In Schemes
but still
Occupied. | Closed. | Occu-
pied. |
|-------------|---|------------------|----------------------------|--------------------------------------|---------|----------------|
| 1906 | 966 | 757 | 101 | — | 108 | — |
| 1907 | 287 | 199 | 88 | — | — | — |
| 1908 | 274 | 174 | 100 | — | — | — |
| 1909 | 352 | 290 | 61 | — | 1 | — |
| 1910 | 303 | 225 | 69 | — | 9 | — |
| 1911 | 162 | 139 | 23 | — | — | — |
| 1912 | 595 | 232 | 4 | 127 | 232 | — |
| 1913 | 148 | 131 | 17 | — | — | — |
| 1914 | 175 | 147 | 11 | — | 17 | — |
| 1915 | 40 | 38 | — | — | 2 | — |
| 1916 | — | — | — | — | — | — |
| 1917 | — | — | — | — | — | — |
| 1918 | — | — | — | — | — | — |
| 1919 | — | — | — | — | — | — |
| Total | 3,302 | 2,332 | 474 | 127 | 369 | — |

The nett result shows that during the past fourteen years, 2,661 insanitary dwellings have been demolished, 418 have been closed and await demolition or reconstruction, and 687 have been reconstructed and rendered sanitary, making a total for the fourteen years of 3,769 (excluding those still occupied) dealt with as follows:—

| | | | | | | | |
|---------------|-----|-----|-------|-----|-----|-----|------|
| 1906 | ... | ... | ... | ... | ... | ... | 1159 |
| 1907 | ... | ... | .. | ... | ... | ... | 400 |
| 1908 | ... | ... | ... | ... | ... | .. | 320 |
| 1909 | ... | .. | .. | ... | .. | ... | 380 |
| 1910 | ... | ... | ... | ... | ... | ... | 336 |
| 1911 | ... | ... | ... | ... | ... | ... | 193 |
| 1912 | ... | ... | ... | ... | ... | ... | 517 |
| 1913 | ... | ... | ... | ... | ... | ... | 168 |
| 1914 | ... | .. | ... | ... | ... | ... | 236 |
| 1915 | ... | ... | ... | ... | ... | ... | 60 |
| 1916 17-18-19 | | | ... | ... | ... | ... | — |
| | | | | | | | — |
| | | | Total | ... | ... | ... | 3769 |

A

The following tables I, II, III, IV, and marked also A, B, C, D, are prepared pursuant to an instruction of the Ministry of Health.

CITY OF LIVERPOOL.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1919 AND PREVIOUS YEARS.

| YEAR. | Population estimated to Middle of each year. | BIRTHS. | | | TOTAL DEATHS REGISTERED IN THE DISTRICT. | | TRANSFERABLE DEATHS. ‡ | | NETT DEATHS BELONGING TO THE DISTRICT. | | | |
|-----------|--|--------------------|---------|-------|--|-------|--|--|--|----------------------------|--------------|-------|
| | | Uncorrected Number | Nett. | | Number. | Rate. | of Non-residents registered in the District. | of Residents not registered in the District. | Under 1 year of age. | | At all ages. | |
| | | | Number. | Rate. | | | | | Number. | Rate per 1000 Nett Births. | Number. | Rate. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1914..... | 767992 | 23143 | 23065 | 30.0 | 15320 | 19.9 | 718 | 444 | 3219 | 139 | 15046 | 19.5 |
| 1915..... | 772595 | 21653 | 21586 | 27.9 | 14585 | 18.9 | 676 | 569 | 2866 | 133 | 14478 | 18.7 |
| 1916..... | 777247 | 20756 | 20679 | 26.6 | 14119 | 18.1 | 834 | 658 | 2421 | 117 | 13943 | 17.9 |
| 1917..... | 781948 | 17931 | 17906 | 22.9 | 13144 | 16.7 | 804 | 753 | 2071 | 115 | 13093 | 16.7 |
| 1918..... | 781948 | 17171 | 17133 | 21.9 | 16077 | 20.5 | 1626 | 816 | 2137 | 124 | 15267 | 19.5 |
| 1919..... | 781948 | 18845 | 18694 | 23.9 | 13710 | 17.5 | 923 | 496 | 2055 | 110 | 13283 | 17.0 |

NOTES.—This Table is arranged to show the gross births and deaths registered in the district during the calendar year, and the births and deaths properly belonging to it with the corresponding rates. The rates should be calculated per 1,000 of the estimated gross population as stated in Column 2, without the use of the standardising factor for the district given in the Annual Report of the Registrar-General. In a district in which large Public Institutions for the sick or infirm seriously affect the Statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

* In Column 6 are to be included the whole of the deaths registered during the calendar year as having actually occurred within the district, but excluding the deaths of Soldiers and Sailors that have occurred in hospitals and institutions in the district. Information as to the number and causes of such deaths should, however, be given in the text of the report. (See Table D² in Appendix.)

In Column 12 is entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

‡ “Transferable Deaths” are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e.g.*, casuals, are not included in Columns 8 or 9, except in certain instances under 3 (*b*) below. In Column 8 the number of transferable deaths of “non-residents” are deducted, and in Column 9 the number of deaths of “residents” registered outside the district are added in calculating the net death-rate of the district.

The following special cases arise as to Transferable Deaths :—

(1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.

(2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.

(3) Deaths from violence are to be referred (*a*) to the district of residence, under the general rule; (*b*) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known; (*c*) failing this, to the district where death occurred, if known; and (*d*) failing this, to the district where the body was found.

Area of District in acres
(land and inland water) 21,219.

Total population at all ages.....753,353 } At Census
Total families or separate occupiers ...153,307 } of 1911.



TABLE II
CITY OF LIVERPOOL.

Cases of Infectious Disease notified during the Year 1919.

| NOTIFIABLE DISEASE | NUMBER OF CASES NOTIFIED. | | | | | | | |
|---|---------------------------|----------------|---------|----------|-----------|-----------|-----------|-----------------|
| | At all Ages. | At Ages—Years. | | | | | | |
| | | Under 1 | 1 to 5. | 5 to 15. | 15 to 25. | 25 to 45. | 45 to 65. | 65 and upwards. |
| Small-pox | 13 | ... | ... | 2 | 5 | 4 | 2 | ... |
| Measles | 1 | ... | ... | ... | ... | 1 | ... | ... |
| Diphtheria (and Croup)... | 1959 | 21 | 533 | 1039 | 238 | 118 | 10 | ... |
| Erysipelas | 564 | 13 | 17 | 59 | 61 | 175 | 185 | 54 |
| Scarlet fever | 2797 | 24 | 598 | 1917 | 179 | 74 | 4 | 1 |
| Typhus fever | ... | ... | ... | ... | ... | ... | ... | ... |
| Enteric fever | 39 | 1 | 1 | 11 | 14 | 10 | 2 | ... |
| Interperal fever | 55 | ... | ... | ... | 12 | 43 | ... | ... |
| Cerebro-Spinal Fever | 26 | 10 | 3 | 7 | 4 | ... | 2 | ... |
| Poliomyelitis | 2 | 1 | ... | 1 | ... | ... | ... | ... |
| Ophthalmia Neonatorum | 672 | 672 | ... | ... | ... | ... | ... | ... |
| Pulmonary Tuberculosis | 1970 | 3 | 33 | 350 | 375 | 845 | 339 | 25 |
| Tuberculosis other than Pulmonary | 520 | 11 | 77 | 261 | 86 | 58 | 26 | 1 |
| Anthrax | 15 | ... | ... | 1 | 7 | 2 | 5 | ... |
| Measles and German Measles | 2953 | 164 | 1187 | 1477 | 83 | 36 | 5 | 1 |
| Pneumonia and Influenzal Pneumonia | 1269 | 51 | 196 | 201 | 258 | 368 | 165 | 30 |
| Malaria | 395 | ... | ... | 2 | 94 | 277 | 21 | 1 |
| French Fever | 2 | ... | ... | ... | 1 | 1 | ... | ... |
| Dysentery | 26 | ... | ... | ... | 4 | 22 | ... | ... |
| Encephalitis Lethargica... .. | 3 | ... | ... | ... | 1 | ... | 2 | ... |
| Totals | 13281 | 971 | 2645 | 5328 | 1422 | 2034 | 768 | 113 |

City Hospital North, Netherfield Road.
 " " South, Grafton Street.
 " " East, Mill Lane, Old Swan.
 " " Fazakerley Isolation.
 " " do. Annexe.
 " " Sparrow Hall, Fazakerley.
 Sanatorium, Fazakerley.
 " " Park Hill.

All within the City.

Daysbrook Hospital, West Derby. Outside the City.

All the above Institutions are provided by the Corporation of Liverpool.

The Corporation also have at their disposal 10 beds in the David Lewis Northern Hospital, and 40 beds in Walton Institution.

TABLE III.

CITY OF LIVERPOOL.

C

Causes of, and ages at, Death during the Year 1919.

(See notes at back.)

| Causes of Death. | NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT (a). | | | | | | | | | Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District (b). |
|---|--|---------------|----------------------|----------------------|-----------------------|------------------------|------------------------|------------------------|-----------------|---|
| | All ages. | Under 1 year. | 1 and under 2 years. | 2 and under 5 years. | 5 and under 15 years. | 15 and under 25 years. | 25 and under 45 years. | 45 and under 65 years. | 65 and upwards. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| All causes { Certified (c) | 13009 | 1972 | 588 | 708 | 747 | 732 | 2143 | 3068 | 3051 | 5449 |
| { Uncertified | 274 | 83 | 8 | 9 | 9 | 4 | 25 | 43 | 93 | 6 |
| 1. Enteric Fever | 7 | — | — | — | 3 | — | 2 | 2 | — | 6 |
| 2. Small-pox | 1 | — | — | — | — | — | — | 1 | — | 1 |
| 3. Measles | 103 | 18 | 43 | 20 | 13 | — | — | — | — | 40 |
| 4. Scarlet Fever | 74 | 1 | 7 | 30 | 32 | 2 | 2 | — | — | 76 |
| 5. Whooping Cough | 53 | 24 | 16 | 10 | 3 | — | — | — | — | 8 |
| 6. Diphtheria and Croup | 212 | 9 | 29 | 90 | 79 | 2 | 3 | — | — | 195 |
| 7. Influenza | 1163 | 43 | 32 | 68 | 76 | 155 | 421 | 259 | 109 | 427 |
| 8. Erysipelas | 23 | — | — | — | 1 | 1 | 4 | 11 | 6 | 9 |
| 9. Phthisis (Pulmonary Tuberculosis) .. | 1089 | 3 | 4 | 6 | 65 | 212 | 490 | 281 | 28 | 494 |
| 10. Tuberculous Meningitis | 95 | 18 | 10 | 26 | 34 | 2 | 3 | 2 | — | 52 |
| 11. Other Tuberculous Diseases | 154 | 10 | 22 | 24 | 37 | 27 | 16 | 11 | 7 | 88 |
| 12. Cancer, malignant disease. | 783 | — | — | 2 | 1 | 4 | 112 | 444 | 220 | 307 |
| 13. Rheumatic Fever | 59 | — | — | 3 | 20 | 14 | 13 | 8 | 1 | 19 |
| 14. Meningitis (See note (d)) | 114 | 40 | 20 | 16 | 19 | 7 | 5 | 6 | 1 | 37 |
| 15. Organic Heart Disease | 918 | — | — | 2 | 32 | 44 | 141 | 331 | 368 | 369 |
| 16. Bronchitis | 1560 | 180 | 42 | 38 | 11 | 14 | 94 | 427 | 754 | 405 |
| 17. Pneumonia (all forms) | 1803 | 355 | 238 | 251 | 136 | 100 | 275 | 306 | 142 | 629 |
| 18. Other diseases of Respiratory organs | 176 | 15 | 7 | 10 | 7 | 5 | 30 | 57 | 45 | 68 |
| 19. Diarrhœa and Enteritis. (See note (e)) | 303 | 243 | 60 | — | — | — | — | — | — | 148 |
| 20. Appendicitis and Typhlitis | 37 | — | — | 1 | 10 | 7 | 5 | 11 | 3 | 40 |
| 21. Cirrhosis of Liver | 23 | — | — | — | — | — | 3 | 14 | 6 | 15 |
| 21a. Alcoholism | 14 | — | — | — | — | — | 8 | 4 | 2 | 6 |
| 22. Nephritis and Bright's Disease | 293 | 2 | 2 | 7 | 14 | 14 | 68 | 116 | 70 | 127 |
| 23. Puerperal Fever | 20 | — | — | — | — | 2 | 18 | — | — | 26 |
| 24. Other accidents and diseases of Pregnancy and Parturition | 38 | — | — | — | — | 5 | 33 | — | — | 21 |
| 25. Congenital Debility and Malformation, including Premature Birth | 730 | 710 | 13 | 7 | — | — | — | — | — | 209 |
| 26. Violent Deaths, excluding Suicide ... | 439 | 32 | 18 | 41 | 77 | 41 | 93 | 90 | 47 | 230 |
| 27. Suicide | 35 | — | — | — | — | 2 | 13 | 17 | 3 | 7 |
| 28. Other Defined Diseases | 2910 | 347 | 32 | 56 | 84 | 75 | 303 | 703 | 1310 | 1356 |
| 29. Diseases, ill-defined or unknown | 64 | 5 | 1 | — | 2 | 1 | 13 | 20 | 22 | 3 |
| Totals | 13283 | 2055 | 596 | 717 | 756 | 736 | 2168 | 3111 | 3144 | 5418 |
| Sub-Entries included in above figures— | | | | | | | | | | |
| Cerebro-Spinal Meningitis | 22 | 9 | — | 3 | 6 | 3 | — | 1 | — | 12 |
| Poliomyelitis | — | — | — | — | — | — | — | — | — | — |
| *Typhus Fever | — | — | — | — | — | — | — | — | — | — |
| *Anthrax | 3 | — | — | — | — | 1 | — | 2 | — | 3 |
| *Pneumonia | 837 | 71 | 48 | 78 | 66 | 86 | 219 | 192 | 77 | 263 |

* Sub-Entries should here be made for other deaths which it is desirable to distinguish, on account of their administrative importance or special interest (e.g. any deaths from Anthrax, Typhus or Glanders, which have been included under 28, Other Defined Diseases; or deaths from pneumonia other than broncho pneumonia which have been included under 17, Pneumonia all forms).

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death, which has been consulted and followed in all cases of doubt.

- (a) All "Transferable Deaths" of residents, *i.e.*, of persons resident in the District who have died outside it, are *included* with the other deaths in Columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons resident elsewhere in England and Wales who have died in the District, are in like manner *excluded* from these columns. For the precise meaning of the term "transferable deaths" *see* footnote to Table I.

The total deaths in Column 2 of Table III. equal the figures for the year in Column 12 of Table I.

- (b) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or of non-residents, are entered in the last column of Table III.
- (c) All deaths certified by registered Medical Practitioners and all Inquest cases are classed as "Certified"; all other deaths are regarded as "Uncertified."
- (d) Exclusive of "Tuberculous Meningitis" (10), but inclusive of Cerebro-Spinal Meningitis.
- (e) Title 19 has been used for deaths from Diarrhœa and Enteritis of children under 2 years of age. (In the "Short List" deaths from Diarrhœa, and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28.)

TABLE IV.
CITY OF LIVERPOOL.

INFANT MORTALITY DURING THE YEAR 1919.

Nett Deaths from stated Causes at various Ages under One Year of Age.

(See Note (a) at back).

| CAUSE OF DEATH. | | | | | | | Under 1 Week. | 1-2 Weeks. | 2-3 Weeks. | 3-4 Weeks. | Total under 4 Weeks. | 4 Weeks and under 3 Months. | 3 Months and under 6 Months. | 6 Months and under 9 Months. | 9 Months and under 12 Months. | Total Deaths under One Year. |
|--------------------------------------|-----------------|-----|-----|-----|-----|-----|---------------|------------|------------|------------|----------------------|-----------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|
| All Causes. | Certified ... | ... | ... | ... | ... | ... | 388 | 128 | 99 | 77 | 692 | 341 | 368 | 283 | 288 | 1972 |
| | Uncertified ... | ... | ... | ... | ... | ... | 49 | 5 | 1 | 1 | 56 | 9 | 8 | 6 | 4 | 83 |
| Small-pox ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | — | — | — |
| Chicken-pox ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | 1 | — | 1 |
| Measles ... | ... | ... | ... | ... | ... | ... | — | — | 1 | — | 1 | 1 | 3 | 5 | 8 | 18 |
| Scarlet Fever ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | — | 1 | 1 |
| Whooping Cough ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | 3 | 6 | 7 | 8 | 24 |
| Diphtheria and Croup ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | 1 | 4 | 4 | 9 |
| Influenza ... | ... | ... | ... | ... | ... | ... | — | 1 | 1 | 2 | 4 | 6 | 11 | 8 | 14 | 43 |
| Erysipelas ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | — | — | — |
| Tuberculous Meningitis ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | 6 | 4 | 8 | 18 |
| Abdominal Tuberculosis (b) ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | 2 | 2 | 2 | 1 | 7 |
| Other Tuberculous Diseases ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | 1 | — | — | 2 | 3 |
| Meningitis (not Tuberculous) ... | ... | ... | ... | ... | ... | ... | — | — | — | 2 | 2 | 2 | 11 | 9 | 7 | 31 |
| Convulsions ... | ... | ... | ... | ... | ... | ... | 28 | 14 | 9 | 7 | 58 | 18 | 27 | 12 | 13 | 128 |
| Laryngitis ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | 2 | 1 | 3 |
| Bronchitis ... | ... | ... | ... | ... | ... | ... | — | 5 | 10 | 13 | 28 | 43 | 38 | 40 | 30 | 179 |
| Pneumonia (all forms) ... | ... | ... | ... | ... | ... | ... | 2 | 4 | 4 | 3 | 13 | 37 | 85 | 100 | 121 | 356 |
| Diarrhoea ... | ... | ... | ... | ... | ... | ... | — | 2 | 2 | 1 | 5 | 36 | 55 | 30 | 24 | 150 |
| Enteritis ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 7 | 2 | 12 | 28 | 26 | 13 | 16 | 95 |
| Gastritis ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | — | 3 | 10 | 2 | 2 | — | 17 |
| Syphilis ... | ... | ... | ... | ... | ... | ... | 1 | 4 | 1 | 6 | 12 | 14 | 6 | 3 | 3 | 38 |
| Rickets ... | ... | ... | ... | ... | ... | ... | — | — | — | — | — | — | — | 1 | 4 | 5 |
| Suffocation, overlying ... | ... | ... | ... | ... | ... | ... | 5 | — | — | 3 | 8 | 8 | 5 | 4 | — | 25 |
| Injury at Birth ... | ... | ... | ... | ... | ... | ... | 7 | 2 | 1 | — | 10 | — | — | — | — | 10 |
| Atelectasis ... | ... | ... | ... | ... | ... | ... | 20 | 1 | — | — | 21 | 1 | 1 | — | — | 23 |
| Congenital Malformations (c) ... | ... | ... | ... | ... | ... | ... | 21 | 10 | 1 | 2 | 34 | 9 | 8 | 3 | 2 | 56 |
| Premature Birth ... | ... | ... | ... | ... | ... | ... | 295 | 62 | 30 | 21 | 408 | 39 | 8 | 3 | 2 | 460 |
| Atrophy, Debility and Marasmus... .. | ... | ... | ... | ... | ... | ... | 42 | 22 | 25 | 11 | 100 | 74 | 53 | 16 | 7 | 250 |
| Other Causes ... | ... | ... | ... | ... | ... | ... | 14 | 3 | 7 | 5 | 29 | 18 | 22 | 20 | 16 | 105 |
| | | | | | | | 437 | 133 | 100 | 78 | 748 | 350 | 376 | 289 | 292 | 2055 |

Nett Births in the year { Legitimate ... 17,766
Illegitimate ... 928

Nett Deaths in the year of { Legitimate Infants 1,832
Illegitimate Infants 223

NOTES TO TABLE IV.

- (a) The total in the last column of Table IV. should equal the total in column 10 of Table I., and in column 3 of Table III.
- (b) Under Abdominal Tuberculosis are to be included deaths from Tuberculous Peritonitis and Enteritis and from *Tabes Mesenterica*.
- (c) The total deaths from Congenital Malformations, Premature Birth, Atrophy, Debility and Marasmus, should equal the total in Table III. under the heading Congenital Debility and Malformation, including Premature Birth.

Want of Breast Milk is included under Atrophy and Debility.

- (d) For references to the meaning of any other headings, *see* notes attached to Table III.

In recording the facts under the various headings of Tables I , II., III. and IV., attention has been drawn to the notes on the Tables.

CITY OF LIVERPOOL.

Deaths of Soldiers and Sailors on Active Service, in the City of Liverpool during the year 1919 and recorded as per Memorandum of the Registrar General dated 1st November, 1915.

| Cause of Death. | Number
of
Deaths. | Cause of Death. | Number
of
Deaths |
|--|-------------------------|---------------------------------|------------------------|
| Enteric Fever | 1 | Mastoid Disease | 1 |
| Scarlet Fever | 1 | Acute Endocarditis | 5 |
| Diphtheria | 2 | Valvular Disease | 7 |
| Influenza | 78 | Bronchitis... .. | 4 |
| Malaria | 5 | Broncho Pneumonia | 7 |
| Dysentery... .. | 2 | Pneumonia | 35 |
| Tuberculosis, Pulmonary .. | 6 | Pleurisy | 3 |
| Tuberculous, Meningitis ... | 2 | Asthma | 1 |
| „ Peritonitis .. | 3 | Other Respiratory Diseases ... | 1 |
| Tuberculosis of Other Organs ... | 2 | Disease of Mouth | 1 |
| Cancer, Stomach | 2 | „ Pharynx | 2 |
| „ Intestines | 1 | Ulcer of S omach | 1 |
| „ other forms | 2 | Appendicitis | 2 |
| Rheumatic Fever .. | 1 | Other Disease of Intestines ... | 1 |
| Leucocythæmia | 2 | Cirrhosis | 1 |
| Anæmia | 1 | Peritonitis | 1 |
| Meningitis... .. | 2 | Nephritis | 8 |
| Other Disease Spinal Cord ... | 1 | Suicide by Cutting Throat ... | 2 |
| Cerebral Haemorrhage | 1 | Coal Gas Poisoning | 1 |
| Paralysis | 1 | Accidentally Drowned | 3 |
| Other Diseases of Nervous
System | 2 | Injuries | 6 |
| | | Gunshot Wounds | 21 |
| | | | 232 |



E DEATHS REGISTERED IN THE CITY OF LIVERPOOL.
DURING THE YEAR 1919.

| CAUSE OF DEATH. | SEX. | | AGE-BELOW. | | | | | | | | | | | | | | | | | | DISTRICTS. | | | | | | | | | | | | | | | | | | PUBLIC INSTITUTIONS. | | | | | | | | | | | | | | | | | | TOTAL. | PER 1,000. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | Male. | Female. | 1 | 2 | 3 | 4 | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 65 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400 | 410 | 420 | 430 | 440 | 450 | 460 | | | 470 | 480 | 490 | 500 | 510 | 520 | 530 | 540 | 550 | 560 | 570 | 580 | 590 | 600 | 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700 | 710 | 720 | 730 | 740 | 750 | 760 | 770 | 780 | 790 | 800 | 810 | 820 | 830 | 840 | 850 | 860 | 870 | 880 | 890 | 900 | 910 | 920 | 930 | 940 | 950 | 960 | 970 | 980 | 990 | 1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| WARD. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ALL CAUSES | 6880 | 6103 | 2055 | 506 | 308 | 221 | 188 | 160 | 296 | 318 | 388 | 496 | 1018 | 654 | 684 | 1630 | 817 | 908 | 1685 | 513 | 88 | 695 | 450 | 520 | 1950 | 866 | 932 | 1187 | 851 | 780 | 427 | 869 | 253 | 45 | 67 | 121 | 1020 | 107 | 255 | 6 | 81 | 6 | 580 | 31 | 15 | 71 | 150 | 21 | 84 | 363 | 20 | 119 | 619 | 40 | 301 | 1 | 1028 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I.—General Diseases | 2070 | 2054 | 184 | 170 | 112 | 98 | 345 | 180 | 221 | 219 | 273 | 533 | 319 | 284 | 206 | 240 | 195 | 196 | 31 | 2 | 139 | 118 | 146 | 420 | 225 | 270 | 307 | 808 | 218 | 153 | 104 | 86 | 47 | 21 | 30 | 70 | 13 | 47 | 1 | 5 | 107 | 46 | 5 | 11 | 38 | 24 | 375 | 9 | 149 | 14 | 104 | 1 | 1191 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| II.—Diseases of the Nervous System | 691 | 619 | 7 | 36 | 10 | 7 | 12 | 19 | 34 | 17 | 12 | 20 | 66 | 48 | 32 | 182 | 103 | 105 | 211 | 68 | 4 | 57 | 25 | 57 | 120 | 73 | 82 | 101 | 74 | 80 | 42 | 39 | 18 | 4 | 8 | 10 | 72 | 13 | 47 | 1 | 1 | 107 | 46 | 5 | 11 | 38 | 24 | 375 | 9 | 149 | 14 | 104 | 1 | 1191 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| III.—Diseases of the Circulatory System | 1875 | 1664 | 520 | 287 | 148 | 87 | 64 | 103 | 51 | 43 | 76 | 94 | 192 | 113 | 138 | 293 | 143 | 156 | 310 | 18 | 9 | 42 | 43 | 61 | 165 | 71 | 75 | 119 | 97 | 9 | 42 | 39 | 18 | 4 | 8 | 10 | 72 | 13 | 47 | 1 | 1 | 107 | 46 | 5 | 11 | 38 | 24 | 375 | 9 | 149 | 14 | 104 | 1 | 1191 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IV.—Diseases of the Respiratory System | 1875 | 1664 | 520 | 287 | 148 | 87 | 64 | 103 | 51 | 43 | 76 | 94 | 192 | 113 | 138 | 293 | 143 | 156 | 310 | 18 | 9 | 42 | 43 | 61 | 165 | 71 | 75 | 119 | 97 | 9 | 42 | 39 | 18 | 4 | 8 | 10 | 72 | 13 | 47 | 1 | 1 | 107 | 46 | 5 | 11 | 38 | 24 | 375 | 9 | 149 | 14 | 104 | 1 | 1191 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V.—Diseases of the Digestive System | 381 | 383 | 280 | 60 | 16 | 10 | 7 | 13 | 15 | 10 | 7 | 16 | 31 | 33 | 33 | 72 | 20 | 30 | 46 | 12 | 5 | 9 | 18 | 30 | 16 | 30 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |

